HOT SPOTS FOR MANTAS

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SportDiver

PADI THE OFFICIAL PUBLICATION OF THE PADI DIVING SOCIETY



DIVE WITH SHARKS

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CLASSIC BAHAMAS DIVE SITES

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AUGUST 2015
VOL. 23 NO. 7


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Barry Brown Curacao

In 2004 Barry's wife received an offer to work on the Caribbean island of Curaçao. They quickly sold off their house and cars, left their jobs and friends, and moved to this small desert island 30 miles off of the coast of Venezuela. Barry bought an Ikelite housing right before the move and got ready to transition from nature photography to underwater photography. Now Barry works for Substation Curaçao, taking underwater photos of a 2.5 million dollar manned-submersible and photographing new finds discovered by visiting scientists.

In conjunction with the Curaçao-based submersible Curasub and the Smithsonian Institution, Barry has spent the past 4 years searching depths up to 1000 feet (300 meters) for new fish and invertebrates. In addition to major contributions to scientific research, this dedicated effort has resulted in a magnificent series of 10 Curaçao postage stamps! The results heighten awareness of our profound responsibility to protect the planet's oceans and exemplify the benefits of the people-to-people ties that intertwine Curaçao and the United States.

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Contents



On the Cover: A Caribbean reef shark in Cuba's Gardens of the Queen marine reserve. **Photo by Noam Kortler**

MIKE VEITCH

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Fins & Wings

Where in the world can you dive with both sharks and rays? We found a dozen hot spots that are sure to deliver encounters with these magnificent animals.

BY BROOKE MORTON

WHAT'S INSIDE:



pg. 23 **Gear: Best Fins** This year's hottest new fins deliver on performance, comfort, style and price. *By Roger Roy*

pg. 48 **Classic Bahamas** Discover the iconic dive experiences in this chain, from Bimini to San Sal. *By Terry Ward*



pg. 58 **The Colors of the Inside Passage** These chilly Northwest Pacific waters teem with life. *Text and photos by Jason Bradley*



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FROM THE EDITOR'S DESK

SHARK LOVE

As some of you may know, I am also the editor of *Sport Diver*'s sister magazine, *Scuba Diving*. It can be challenging to find content we think is appropriate for and unique to each magazine. But for the past three summers, we have deliberately planned a shark feature in each magazine – timed to be in our readers' hands to coincide with the airing of Shark Week on the Discovery Channel – because we hope to educate our readers about sharks, not sensationalize them. This year, along with our partner Project AWARE (projectaware.org), *Sport Diver*'s staff decided to also shine a spotlight on rays, some of which, like many species of sharks, are endangered and in need of our protection. As you discover all the places in the world where you can dive with both sharks and rays (turn to "Fins & Wings" on page 36), we hope you'll be inspired to help our friends at Project AWARE protect these magnificent animals – they could use a few good divers.



Patricia Wuest
Editor-in-Chief

In your July issue, you asked readers to write about their dream dive vacation. Mine would be Chuuk Lagoon, diving with my father. I learned about Chuuk from *Sport Diver*, shortly after getting certified. My father is a career United States Marine, and taught me about perseverance, mental toughness and dedication. He has been my hero since I was old enough to know what "hero" means. He helped inspire my passion for diving by telling stories from his early diving days in Florida when he was in flight school for the Marines. He also sparked my interest in military history. Chuuk Lagoon — "Japan's Pearl Harbor" — offers perspective into the sacrifice of so many, on both sides of the conflict. Having stood above the USS *Arizona* in Pearl Harbor with my father, it would be a dream trip to become a part of history in Chuuk with my best dive buddy.

– Parker Barham, Wilmington, N.C.

We loved your dream vacation plans, Parker — and hope you can realize them someday. When you do, we think you'll like diving with Ikelite's PCm LED Lite that we're sending to you — almost as much as you like diving with your father.

EMAIL THE EDITOR at editor@sportdiver.com.

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TOP: CARRIE GARCIA

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Dive Briefs

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Wish You Were Here

Spin City

Acrobatic spinner dolphins are famous for their above-water displays

Any time of year is good for seeing the resident spinner dolphins of Hawaii Island's Kona coast. Pods travel in family groups of 50 to 100, giving visitors the chance to observe their aerial displays via boat tours, during which small pods of bottlenose dolphins also might drop by. During winter, it's also possible to spot migrating humpback whales from the boat. After dolphin- and whale-watching, guests can grab their snorkels and fins to explore one of the nearby reefs. — *Lauren Pierce*

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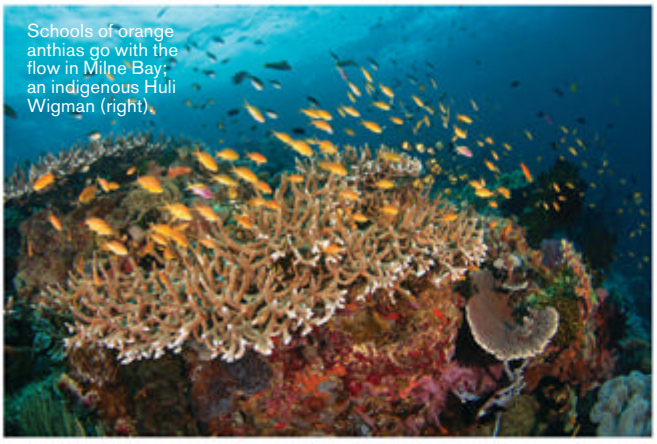


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sherwoodscuba.com

PERFECT 10

FOR MORE INFO ON PAPUA NEW GUINEA VISIT **SPORTDIVER.COM**



Schools of orange anthias go with the flow in Milne Bay; an indigenous Huli Wigman (right).



PAPUA NEW GUINEA

This Coral Triangle hot spot is one of the last great frontiers on Earth

BY TANYA G. BURNETT

1 MARKET DAY

Find carvings, masks and other treasures at the Ela Beach Craft Market, the country's largest. It takes place the last Saturday of each month at the Ela Beach school in Port Moresby.

2 COLORFUL WARRIORS

Learn about the Huli Wigmen Clan, which lives in the Tari Valley in the Southern Highlands. Stay at Ambua Lodge for an authentic experience. **pngtours.com**



3 MUCK TO MANTAS

Milne Bay is famous for being one of the first big spots for muck diving, but that is just the beginning; amazing reefs, shipwrecks and a wonderful manta cleaning station make it an extraordinary region. **chertan.com**

4 TAKE A HIKE

Hire a guide and a porter, and embark on a multiday, 60-mile historical trek across the Owen Stanley Range. Note: It's not for the average day-tripper; best times to hike are August to September. **escapetrekking adventures.com.au**

5 VISUAL SPECTACLE

Visit the Mount Hagen cultural show in August for the massive annual sing-sing that brings tribes together from across the highland regions for performances involving traditional dances, singing and rituals. **pngtours.com**

6 CROCODILES AND CARVINGS

Embark on a river cruise to learn more about life in the stilt villages on the Sepik River. Villagers accept the local crocodiles as their co-habiters — a reverential relationship expressed in much of their art and traditions. **pngtours.com**

7 ISLAND RESPITE

Escape from capital Port Moresby for a day to dive among World War II shipwrecks and coral bommies. Loloata Island Resort is a welcoming retreat with free pickup service from the airport and boat transfers to the island. **loloata.com**

8 CORAL GARDENS

Stay at Walindi Plantation Resort for access to Kimbe Bay, home to some of PNG's most protected coral reefs, with gargantuan sea fans and sites such as Vanessa's Reef. **walindi.com**

9 FISH SOUP

At the edge of the Bismarck Sea is Lissenung, a private island surrounded by great diving. On an incoming tide, Albatross Passage is loaded with pelagics, sharks, rays, and more fish than you can count. **lissenung island.com**

10 FJORDS TO FISH

Tufi serves up unique scenery, with precipitous terrain dropping down to an azure sea. Coral reefs line the edges of the fjords, while farther afield are reefs like Mulloway. Along the way, spy hornbills, cockatoos and the Queen Alexandra's birdwing, the world's largest butterfly.

FROM LEFT: TANYA G. BURNETT; ISTOCKPHOTO. OPPOSITE: TIM GRAHAM/ALAMY

DIVERS GUIDE TO PAPUA NEW GUINEA

Average water temp mid-70s to mid-80s » **What to wear** 1.5 mm to 5 mm » **Average viz** 30 to 100 feet » **When to go** Year-round, though some specific marine sightings are seasonal » **More info** sportdiver.com



FINS FLY NO MORE

Airlines worldwide join in banning transport of shark fins

BY MELISSA GASKILL

Divers travel far and wide to see sharks, but a more insidious group of shark seekers also prowls the sea — the shark-fin trade, which takes up to 100 million animals each year. Many of these fins are shipped by air, but with conservation groups applying pressure to end the practice, many airlines have banned shark fins from their cargo.

American Airlines most recently joined the list of carriers banning shark fins, citing evidence of hammerhead shark-fin export from Costa Rica, gathered by the Turtle Island Restoration Network and Costa Rican conservation group PRETOMA.

"American Airlines and US Airways deserve support for banning shipments of shark fins," says Doug Karpa, legal program director for TIRN. "Unfortunately, no other U.S. airline has followed suit yet, although conservation groups have asked carriers such as United Airlines to join the pledge."

When you travel, choose airlines that refuse to carry shark fins, and let carriers that don't yet ban fins as cargo know why you won't fly their friendly skies.

Below is a list to help you choose ethically when it comes to flying.

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- Air New Zealand
- Air Seychelles
- Asiana
- Cebu Pacific
- Emirates
- Etihad
- EVA Air
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- Finnair
- Garuda Indonesia
- Jet Airways
- Korean Air
- KLM Royal Dutch Airlines
- LAN Chile
- Lufthansa
- Philippine Airlines
- Qantas
- Qatar Airways
- Singapore Airlines
- Swissair
- Thai Airways
- Virgin Atlantic

NO RESPONSE TO REQUESTS TO BAN SHARK-FIN CARGO:

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- Air India
- ANA (Japan)
- China Airlines
- GOL
- Iberia
- Iran Air
- Japan Airlines
- Lion Air (Indonesia)
- Malaysia Airlines
- Pakistan Airlines
- TAP Portugal
- United Airlines

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SAVING THE CLOWNS OF THE SEA

Volunteers in Newfoundland help puffins on their way to the water

BY AMANDA CASTLEMAN

Graceful in water, puffins tend to trip over their safety-cone-orange feet while waddling on land. Worse, their chicks can be pulled off-course by artificial lighting while making their first journey to open ocean. Lost pufflings often circle until they grow dehydrated, which inhibits their ability to fly — and then many fall prey to gulls, cats and cars.

Enter the Puffin Patrol, a conservation group on the southern shore of Newfoundland, Canada. From August to October, volunteers — mainly teenagers and families — scoop up wayward juveniles every night and release them into Witless Bay at dawn. In 2014, the patrol rescued 825 birds, which joined one of North America's two largest Atlantic puffin colonies, made up of more than 260,000 mating pairs.

The tradition began in 2006 with two summer residents: Juergen Schau, a semiretired film executive from Berlin, and his wife, Elfie. Armed with butterfly nets, they collected lost fledglings and encouraged local children to do the same, paying $1 for each stranded chick. "But soon, they didn't want any money, and they taught their parents to support the Puffin Patrol," Juergen says.

In 2011, the group also began shepherding the world's second-largest colony of Leach's storm petrels, which contains around 620,000 pairs. Along with the Canadian Parks and Wilderness Society, the patrol started campaigning against light pollution, an escalating problem as the oil industry draws more people to Newfoundland.



A helping hand: Pufflings leave the colony without their parents and face a number of dangers.

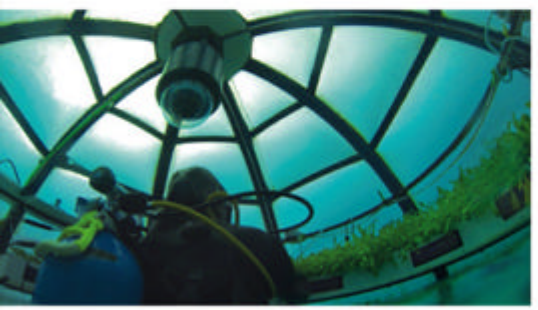
"Now locals are more inclined to turn their lights down," says the Wilderness Society's co-executive director, Suzanne Dooley. "In fact, some businesses have even disconnected their advertising lights. This is a huge step forward."

Visitors to the province can join the Puffin Patrol (August tends to be the busiest time). To volunteer, contact nlmarine@cpaws.org or call 709-726-5800.

The Farm Life Aquatic

One family is revolutionizing underwater grow houses

BY BROOKE MORTON



All you need is a blue thumb: The plants in Nemo's Garden thrive in a Mediterranean biosphere.

The idea for Nemo's Garden, the first underwater marine farming habitat, was born in 2011 while the Gamberini family, manufacturers of Ocean Reef full-face masks for divers, was vacationing in Genoa, Italy. Sergio, patriarch and company president, wondered what it might look like to grow plants in the environment where he dives.

"Imagine pushing a glass down into a sink full of water — as long as you don't tilt it, you have an air pocket," says Luca Gamberini, son of Sergio and Ocean Reef marketing manager. This concept was the foundation for the project, which relies on a series of plastic balloons, some with volumes as high as 3 tons, anchored to the seafloor at depths ranging from 10 to 30 feet. Inside, they grow basil, lettuce, potatoes and strawberries.

The Gamberinis started with salt-tolerant plants, such as basil, that would also do well with humidity. As for light, the shallow depths let in 40 to 60 percent of natural sunlight — more than enough to sustain the plants. The crops thrive in the steady temperature inside the biospheres, due to the Mediterranean's insulating effects; water temps rarely dip below 72 degrees.

Another advantage is that the environments have no parasites. They've also created a habitat for seahorses, octopuses and fish eggs.

The results of Nemo's Garden will be on display at Expo 2015, a world fair themed "feeding the planet," held May to October in Milan. Luca will also announce the project on Kickstarter, hoping to source further income and educate people on the project's potential.

Says Luca, "It went from a fun thing — mainly a stunt for marketing — to something that could really and truly be a solution to the world hunger problem."

FROM TOP: DANA BUTTERS; LUCA GAMBERINI

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ARA
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Matt Lombardo
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PATTERNED BEHAVIOR

What fascinates scientist Derya Akkaynak most about the mollusks she studies

BY BROOKE MORTON

Derya Akkaynak was an aerospace engineer when she attended a Boston Sea Rovers lecture given by cephalopod scientist Roger Hanlon. Captivated, she invited him afterward to dive the Aegean Sea off her home village of Cesmealti, Turkey. There, cuttlefish are so prevalent, they walk the beaches at night. When she sent photos of coastal sidewalks covered in black ink, he consented, letting Akkaynak serve as his guide. Now, she studies cuttlefish alongside Hanlon.



"IT WAS SUCH A PRIVILEGE TO BE IN THIS DIFFERENT WORLD, WITNESSING SOMETHING NO ONE ELSE MAY HAVE EVER SEEN."

Q: What surprises you most about cuttlefish?
A: They're actually colorblind. I'd like to know how, without sensing colors, they blend in with their backgrounds. Their skin likely senses light intensity, and maybe even color.

Q: Cephalopods blend in so well. How?
A: They use a variety of tactics; one is called motion camouflage. An octopus crossing an exposed sandy patch in daylight would be hunted if he did that at normal speed. So he does what's called moving-rock motion: He bunches up his arms, walks on two, and moves at a speed that makes him appear to be swaying with the surge, all while working toward his destination.



Akkaynak's photo of her buddy with an obliging cuttlefish.

Q: What's been your best underwater moment?
A: It was the end of a three-week research trip in Turkey — the last dive of the last dive day. Hanlon skipped it, and my camera flashed out of battery, but my dive buddy and I went anyway.

Q: And?
A: We found a cuttlefish, and all of a sudden, another started attacking it. They looked like they were eating each other, but they were mating. Then another male showed up, competing for the female. It was a giant fight with lots of ink and body parts ripped off. It lasted 15 minutes.

Q: The result?
A: Turns out, it was the best footage I ever shot — somehow the camera ended up working. It was such a privilege to be in this different world, witnessing something that no one else may have ever seen.

READ MORE

For more information on Hanlon and Akkaynak's cuttlefish research, visit **mbl.edu**.

ASK DAN

Why did I get DCS?

BY DIVERS ALERT NETWORK

After her second dive, Mia began to feel a strange sensation down her right arm. After her third dive, the discomfort grew, but she thought it might be due to her new, heavy doubles. The next day, extreme fatigue and numbness in her arm prompted a visit to the doctor. To her surprise, she was referred to a hyperbaric chamber. She had met her deco obligations so she didn't understand how she could have gotten decompression sickness.

What is decompression sickness?

Ambient pressure increases during descent, causing the body's tissue to take on more inert gas (i.e., nitrogen). A controlled ascent allows nitrogen to move from tissue and blood to the lungs, where it can be exhaled. Decompression sickness (DCS) can occur when ambient pressure decreases faster than the elimination of nitrogen, leading to gas coming out of the solution to form bubbles, much like when you take the cap off a soda bottle. The body can tolerate some gas bubbles, but if they enter sensitive tissues, a range of symptoms associated with DCS can occur.

It's not about who deserves it

The DAN medical team often speaks with divers who, despite following their dive computers, developed DCS. Some divers consider these symptoms "undeserved" or "unexplained."

Dive computers and tables are based on mathematical models that measure the pressure-time profile to predict the rate of on- or off-gassing for a given breathing gas. Allowable bottom times and, if necessary, decompression stops, are indicated based on the exposure. Although these models are useful in

COURTESY DERYA AKKAYNAK (2). OPPOSITE: CARLOS AND ALLISON ESTAPE



Safety stops are one key to avoiding DCS.

managing decompression risk, they do not account for myriad factors that can change that risk — for example, when and how hard you exercise or your thermal state. Ultimately, your dive computer helps manage decompression risk, but it cannot guarantee a risk-free dive.

How do I reduce my risk?

Exercise increases blood flow, delivering more oxygen to the tissues that need it, including nitrogen. Minimizing exercise intensity and avoiding overheating during a dive can reduce nitrogen on-gassing. Practicing excellent buoyancy control, proper hydration and getting adequate rest can also reduce risk. Finally, understand how your dive computer works: It is a tool designed to manage your risk, not the *only* means by which you measure it.

Evaluate your risk

Variations in body composition and function affect individual risk. Less physically fit and older divers may be at an increased risk. Some additional precautions are:

» **Minimize on-gassing:** Cut back your depth and time exposure. Consider diving with nitrox on air tables (or set your computer to air). Beware of the maximum operating depth of the nitrox mix.

» **Maximize off-gassing:** Avoid square-profile diving and practice multilevel diving instead. Add safety stops and appropriate surface intervals.

Be prepared

It is important to understand that no single element is the critical factor when it comes to DCS. Thoughtful divers will educate themselves about potential risks and how to accommodate for them when they dive. Proper training can help you recognize and respond to symptoms if they do occur. Learn more about DCS at **dan.org**.

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THE PUFFERFISH

These innocuous-looking fish have an armory of defenses

BY DR. RICHARD SMITH



Pufferfish aren't exclusively marine; there are dozens of freshwater and estuarine species across South America, Africa and Asia.

A documentary team filming dolphins recently recorded them purposefully catching and chewing on pufferfish, which the team claimed was having **an intoxicating effect on the mammals**.

Due to its role in inflating the body, **the pufferfish's stomach is not involved in digesting food**.

Pufferfish meat, or ***fugu***, **is a delicacy in Japan and can be prepared only by specially licensed chefs**. Despite this, there are reports of up to 50 pufferfish-related deaths per year.



Tetrodotoxin found within pufferfish is **the same toxin present in the bite of the blue-ringed octopus**. In both cases, the toxin, which is 1,200 times more poisonous than cyanide, is produced by symbiotic bacteria that live harmlessly with the host.



Tetrodotoxins extracted from the masked puffer were found to have anti-cancer properties.



Pufferfish are most toxic immediately prior to and during the reproductive season, due to a link between toxin production and reproductive hormones.

While there isn't a particular number of times that a puffer can inflate in its lifetime, it is a stressful process. **They are unable to inflate repeatedly due to fatigue**.

The **star pufferfish undergoes a dramatic color change as it matures**, from bumblebeelike contrasting stripes to more-subtle spots.

Small amounts of tetrodotoxin are passed from mother to egg to protect the babies against predators.



A pufferfish doesn't hold its breath to stay puffed up; it is able to continue breathing through its gills while inflated.

CLOCKWISE FROM TOP LEFT: MICHAEL PATRICK O'NEILL/ALAMY; NEIL SETCHFIELD/ALAMY; DAVID FLEETHAM/ALAMY; ISTOCKPHOTO (2)

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LEGOS OF THE REEF



Australian designer adds a new puzzle piece to coral-reef-restoration initiatives

BY GABRIELA MONT



Artificial reefs come in many shapes and sizes, but an industrial designer from Melbourne, Australia, is bringing fresh ideas to help restore damaged or destroyed coral reefs. Alex Goad began working on a Lego-like modular structure (MARS) during his final year at Monash University in 2013, taking about eight months to develop the final prototype. After a year in Port Phillip Bay, one of the structures is proving to be quite successful.

"We documented juvenile shellfish colonization, mature Tasmanian blennies and shrimp hiding in the specially designed protective space, and a myriad of baby fish species using the structure as a nursery," says Goad. "A thick layer of seaweed, sponges and sea squirts are all growing among the structure as it quickly disappears under the marine growth."

The project aims to create a cost-effective and easy way to help restore reefs worldwide — with small assembly pieces, the installations can be deployed by small boats, without the use of heavy-duty equipment.

Through Reef Design Lab, Goad says, he and his team are continuing to pursue "every available opportunity," and have been talking to organizations and universities worldwide. Though they are still testing and refining the product, Goad hopes to have it ready by the end of 2015.

"I hope to see local divers implementing such products into areas affected by typhoons and other damage," says Goad. "With the [recent] increase of severe weather cycles, it's going to become more and more important to restore reef systems."



Hope for Coral

Newly discovered algae help corals brave the blazing-hot Persian Gulf

BY NADA HASSANEIN



A thermotolerant algae species has been found in Persian Gulf reefs, and it's helping native coral survive its very hot waters.

While most corals can only tolerate water temperatures up to 84 degrees, Persian Gulf (aka Arabian Gulf) corals — with the help of the algae *Symbiodinium thermophilum* — can survive in far hotter conditions.

"The waters of the Arabian Gulf reach over 35 degrees C (95 degrees F) each summer, which would be lethal to corals in most of the world," says researcher John Burt, biology professor at New York University's Abu Dhabi branch. "It's also several degrees above that which is expected for much of the tropics in the coming century."

Burt's team concluded that this distinct species of algae has ecologically and genetically evolved as a result of the extreme water temperatures in the Persian Gulf.

"We are still investigating the mechanisms that allow this species of coral-associated algae to perform so well at high temperatures, and the results of that research are forthcoming," says Burt.

Burt and his team hope this discovery will have positive implications for not only the six coral species that receive the algae's protection, but also for the survival of the area reefs as a whole, especially as the effects of global warming lead to higher chances of mass coral-bleaching events, which can be caused by even a small increase in water temperatures.

"This species can provide a lot of insight into how coral-associated algae can adapt to extreme temperatures," says Burt, "and potentially, to whether a species with such high thermal tolerance could provide hope for reefs in a future threatened by climate change."

JOHN BURT. OPPOSITE: COURTESY REEF DESIGN LAB (2)

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There are no shortcuts to becoming a cave diver.

DISCOVER CAVE DIVING

When you're ready, two PADI courses are designed to let you discover a wonderful subterranean world

BY PATRICIA WUEST

What is the difference between those who safely explore caves and those who get into trouble? Proper training.

We asked PADI's technical development executive, Karl Shreeves, what it takes to become a full-cave diver. Certified since 1970, Shreeves has made more than 100 safe cave dives.

"Cave diving is a rewarding technical challenge that demands that you be entirely in the moment," says Shreeves.

When signing up for a cave-diving course, Shreeves says, you must possess good buoyancy control, situational awareness and team consciousness. "Cave diving is for self-disciplined, detailed divers who follow the rules and stay within their limits."

The overhead environment presents a unique challenge to divers: "There's no going straight up if you have a big problem," says Shreeves. "But you also need patience — becoming a cave diver isn't a two-day course, and it's not something you can do by buying gear and reading posts online," he stresses. "People who cut corners, omit procedures and try to take shortcuts are the ones who can have really big problems in caves."

Endurance is also required, so be honest about your fitness. "You need moderate strength and endurance because the gear is heavy and you swim a long way — once you swim in, you have to swim out," says Shreeves.

He recommends these training steps:

» **Advanced Open Water Diver** This course teaches the initial skills for exploring within depths of 130 feet. He also strongly recommends taking the Rescue Diver course.

» **Enriched Air Diver** "Dives tend to be long and at moderate depths, where EANx makes a big difference by giving you more no-stop time and shorter decompressions," says Shreeves.

» **Tec Sidemount Diver** Sidemount has a lot of logistical advantages in caves, says Shreeves, so it can be a valuable course.

Once you have this training, you're ready to step into cavern and cave diving.

» **Cavern Diver** "Becoming a cave diver starts with this course," says Shreeves. "You learn fundamental cave kicks; light, line and reel use; team-diving procedures; gas management; and how to handle emergencies," he says. "You can cavern dive in a standard open-water kit, with some modifications, though if you know you want to be a cave diver, I suggest using full cave gear, if your instructor allows."

» **Cave Diver Distinctive Specialty** Once you complete Cavern Diver, the next step is Cave Diver Distinctive Specialty.

My Favorite Cave

Where do cave divers like to submerge? Sometimes close to home, sometimes farther afield.

"I love the **Ghost Cave** in **Sardinia, Italy**. It is actually classified as a cavern dive, so all divers can experience it as long as they are with a qualified guide. The white limestone walls, the tight, twisting entrance and alabaster mineral formations give a taste of real cave diving."
— Alex Mustard, marine biologist and professional underwater photographer

"After a tortuous swing through a tunnel in hurricane-force flow at **Silver Glen Spring** in **central Florida**, you reach a doorway that drops into a room of unmatched size and wonder. In the depths, a small vent of relic seawater spurts out of a tiny hole, offering just enough salinity in the freshwater river to attract stingrays, blue crabs and even bull sharks from over a hundred miles up the St. Johns River."
— Jill Heinerth, owner, Heinerth Productions

"My favorite is **Devil's Cave System** in **High Springs, Florida**. You could dive there every week for a year and be able to see a new passage every time."
— Jared Hires, general manager/marketing director, Dive Rite

JILL HEINERTH

"You learn what you need to explore beyond the cavern zone," says Shreeves. "You refine and expand a lot of what you learned in the cavern course, but now you're doing it while managing additional hardware — multiple cylinders, two regulators, at least three lights and so on. You learn how to navigate in the cave and properly use guidelines. You practice some worst-case scenarios, such as finding your way out with no lights while sharing gas with a teammate, what to do if you get lost in a cave, and how to find a lost teammate, among others. And you get to see a lot of cool caves."

And that's the bottom line, says Shreeves. "Caves are fascinating and amazingly different, ranging from spacious and beautiful to small and eerie. They have organisms and formations you won't see anywhere else."

GEAR UP

Cave diving requires specialized gear to safely enjoy the adventure



1 LX20
This powerful light can illuminate the darkness of even the biggest cave, and its concentrated beam makes it easy to signal a buddy. It has a double-O-ring-sealed body and three power modes, and is rated to 500 feet.
diverite.com; $750



2 Nomad LTZ
Made of durable SuperFabric material, this BC is built to resist the rigors of sidemount diving — whether you're pushing deep into a cave or squeezing through tight passages. The inflator and exhaust valves are positioned on the inside of the wing for added protection.
diverite.com; $579

3 Cave Primary Reel
Don't go in unless you know how you're coming out. The top-handle design lets you hold the reel in the same hand as your dive light. It comes with 400 feet of heavy (No. 24) braided line and a large stainless snap. A lockdown screw holds the reel where you stop it.
diverite.com; $65






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LATEST KICKS

SD 08/15

Sport Diver EDITOR'S PICK 2015

From redesigned favorites to all-new models, full-size paddles to compact travelers, the latest batch of fins has something for every diver. Here are 10 new fins we've kicked around that offer performance, comfort and convenience.

BY ROGER ROY
PHOTOS BY CHELSEA POMALES

» SHERWOOD SCUBA TRITON
The Triton combines elements of classic vented fins with an updated design and modern materials. The result is a full-size fin (24¾ inches in medium) that's lightweight and flexible – but with a brisk snap that gives impressive power and acceleration. The large vents direct thrust for efficient kicking in any swim style, while the wide blade offers easy maneuverability. The long base of the foot pocket provides stability and comfort. It's also available with spring straps. **CONTACT:** sherwoodscuba.com **MSRP:** $145

FINS





1 CRESSI ARA HARD BLADE EBS

Designed for cold-water divers, the ARA has slightly larger foot pockets to accommodate drysuit boots. The blades, likewise, are full size — long and wide, for good power and acceleration — and are available in a Soft Blade version. The elastic bungee straps have large, soft heel pads for comfort and a secure fit, and the oversize finger loop on the strap makes them a cinch to get on and off. **CONTACT:** cressiusa.com **MSRP:** $169.95

2 SEAC PROPULSION

The Propulsion has a long blade with three water channels that run almost its full length and work with ribs on the side rails at the tip to redirect water for optimum thrust. The supple blade provides power without stressing leg muscles. The deep pocket has a firm bottom for stability, a flexible top section for a nonchafing fit, and two-position locks on the straps to prevent accidental release. **CONTACT:** seacusa.com **MSRP:** $100

3 SCUBAPRO SEAWING NOVA II

Scubapro has continued to refine the unique design of the original Nova, which allows the whole blade to pivot for maximum thrust. The latest version has reshaped blades for efficiency in all kicking styles, and redesigned flex sections connecting blade-to-foot pocket for greater durability. There's also a nonskid material on the foot pocket and a selection of funky new colors to choose from. **CONTACT:** scubapro.com **MSRP:** $199

4 TILOS FIJI

The long, trusslike side rails on the Fiji brace the blade for just the right combination of stiffness and flexibility, while the large cutouts between the foot pocket and rails reduce drag through the water. A soft, deep pocket in the center of the blade scoops water for added drive. At just a shade over 21 inches in size medium, the Fiji is an attractive travel companion. **CONTACT:** tilos.com **MSRP:** $69.95

5 BODY GLOVE VAPOR

While the Vapor fin might look like a standard open-heel fin, it's actually made to wear on bare feet. It's comfortable, with a soft foot pocket and neoprene heel pad on the adjustable strap. The vented blades provide a good mix of power and acceleration without overtaxing calf muscles. The Vapor's compact dimensions (22 inches long in the largest size) make it a fin to consider for travel — and the price is right too. **CONTACT:** bodyglove.com **MSRP:** $49.99

6 DIVE RITE XT

The XT has used a tried-and-true design and construction for more than 20 years, but it now comes with a new stainless spring strap buckle that makes the most of the fin's power and stability. Though it's on the stiffer side of the scale, the XT's blade also has a noticeable snap to it that gives it good drive and acceleration. And the new strap-buckle boot-hugging foot pocket provides rock-solid stability as well as a comfortable, secure fit. **CONTACT:** diverite.com **MSRP:** $165

FINS



1 OCEANIC ACCEL

The Accel is formed from a solid piece of synthetic rubber that makes it noticeably lighter than most fins and gives it a brisk snap to its kick. The deep side rails block water from spilling off the sides of the blade and direct thrust for forward drive. The stretch straps are easy to adjust and available in seven colors. The suitcase-friendly Accel measures just 21 inches in size regular. **CONTACT:** oceanicworld.com **MSRP:** $99.95

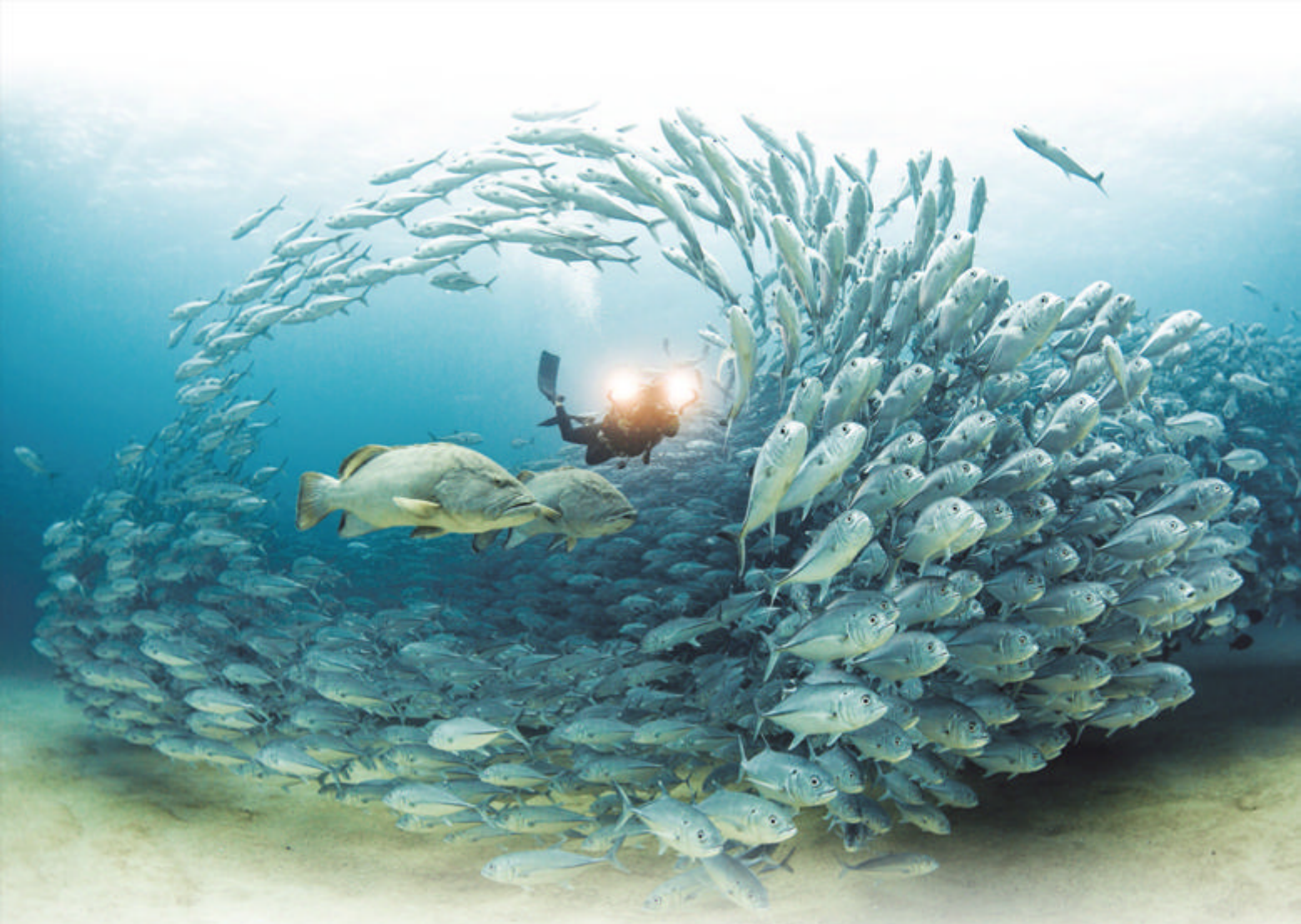
2 ATOMIC AQUATICS BLADE FIN

An innovative take on the conventional paddle fin, the Blade is made of alternating bands of hard and soft materials, with long, tapering side rails that support the huge, dished channel that takes up most of the blade. The foot pocket's sole plate ties into the fin's whole structure for rock-solid stability. Winglet stabilizers at the tips of the side rails keep the fins tracking straight throughout the kick cycle for top power and efficiency. **CONTACT:** atomicaquatics.com **MSRP:** $179

3 IST SUMI

The top of the Sumi's blade is molded with six channeling guides to direct water where it provides extra drive with each kick. The blade is positioned high on the foot pocket and set at an angle of 22 degrees for efficiency and reduced leg and ankle stress. The foot pocket is deep and soft, and the bottom has thick, soft tread for an effective nonskid grip on slippery boat decks. **CONTACT:** istsports.com **MSRP:** $90

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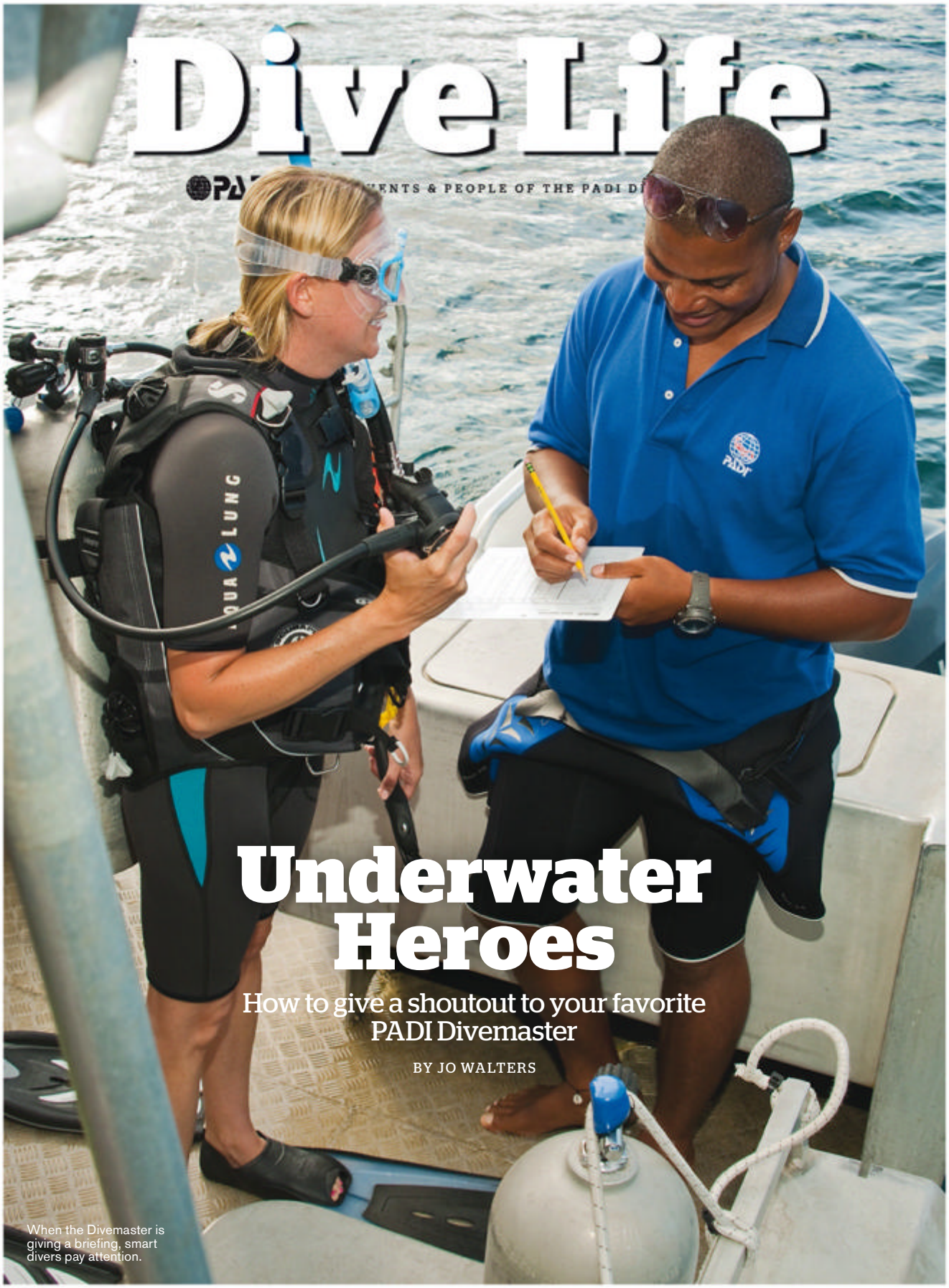


PADI

Underwater Heroes

How to give a shoutout to your favorite PADI Divemaster

BY JO WALTERS



When the Divemaster is giving a briefing, smart divers pay attention.

KARL SHREEVES/COURTESY PADI (2)

Are you one of the many PADI Divers who owes a debt of gratitude to a PADI Divemaster, one who helped you conquer challenges on the road to getting a PADI certification? If so, you are not alone. The Divemaster is often the person who spends extra time with you to help you master that mask clear, become more proficient at neutral buoyancy, or just find your zen underwater.

Even for those who didn't struggle, a Divemaster may have helped render your dives safer by ensuring your gear was donned correctly and buddy checks were properly conducted. For example, PADI Diver Patrick Loerbach wrote to PADI about the Divemaster who assisted him during his PADI Advanced Open Water Diver course at PADI Five Star Career Development Center Couples Resort in St. Ann, Jamaica, last summer.

"Divemaster Collin Whyte was always happy, chatty – and busy! He did such a great job of keeping us laughing that it was several dives before I came to see how organized and detailed he was in preparing the equipment, knowing the skills and experience of each diver, and making sure everyone was safe and comfortable. He was a stickler for making sure ascents and descents were done properly, and he had a knack for spotting cool things that we missed. Having Collin there always made for a better dive."

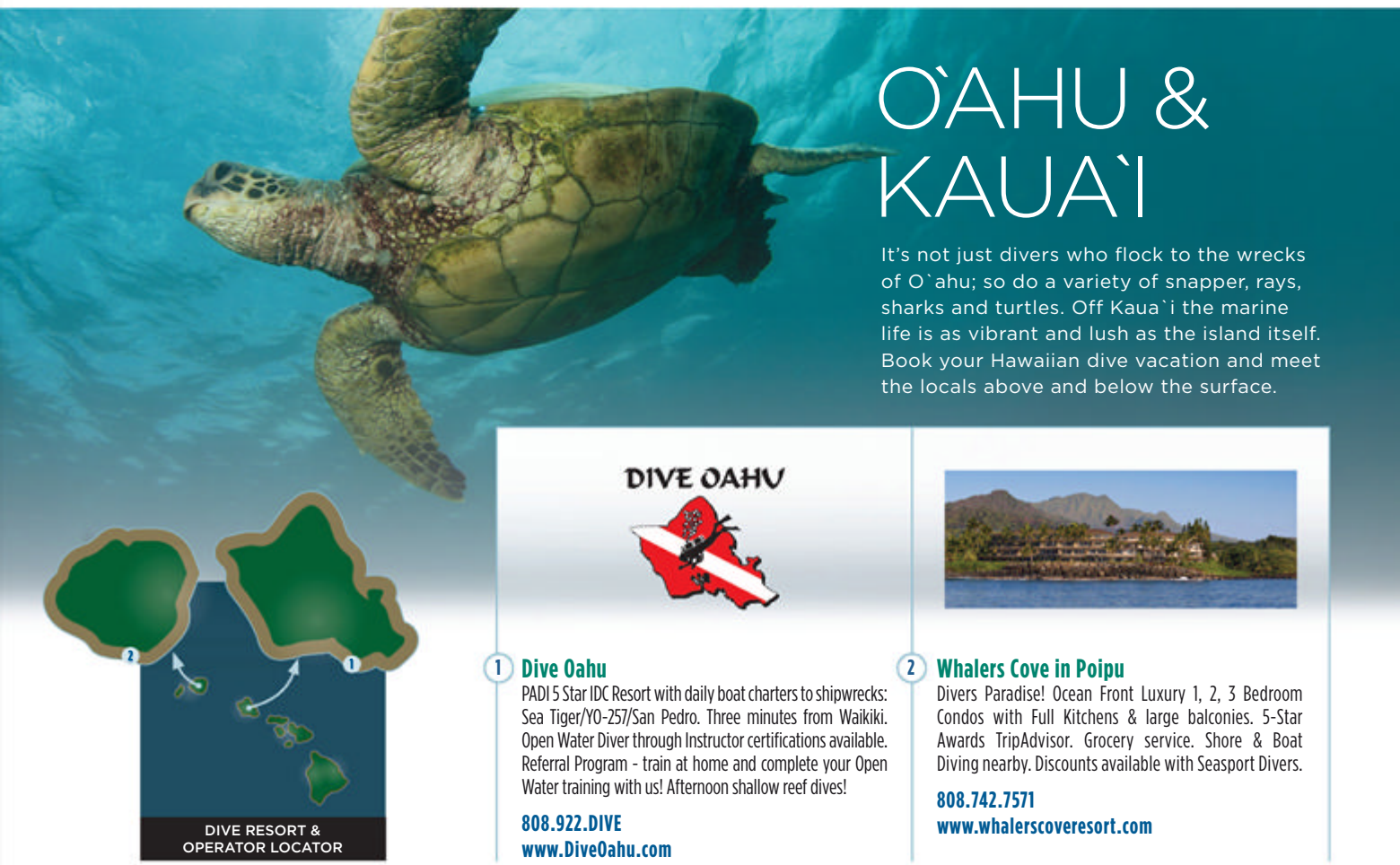
First-Rate Boat Mates

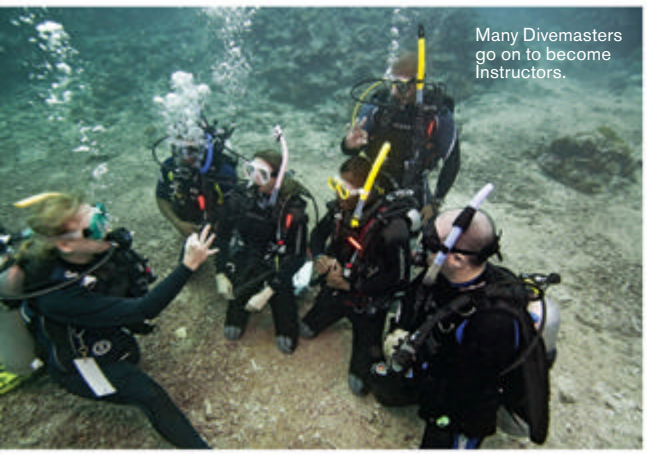
Going on a boat dive? Don't forget to bring along your favorite PADI Divemaster.

A Divemaster is often the person on the boat who assists you in getting ready to dive, from helping you set up your gear to making sure your air is on before



you take that giant stride into the water. When you were new, it was most likely a Divemaster who helped you with your predive jitters by telling you funny stories. Once underwater, he led you to the best places to see the coolest creatures, helping you forget your nerves. Or, perhaps he trailed the dive group, ready to





Many Divemasters go on to become Instructors.

KARL SHREEVES/COURTESY PADI

assist if needed, while ensuring the group stayed together and everyone returned safely back to the boat. Better still, at the end of your dive, it was probably the Divemaster who eased your passage out of the water by taking your fins and any other equipment you may have needed to hand off before climbing the ladder.

Are You Hero Material?

Aside from being heroically helpful, PADI Divemasters get to do some cool stuff — like live the dive life every day. They can travel the world, seeking employment at more than 6,200 PADI Dive Centers and Resorts; leading Discover Local Diving excursions, snorkeling tours and select PADI Adventure Dives; and teaching PADI ReActivate, PADI's new scuba-refresher program. Divemasters can also apply to become Discover Scuba Diving leaders, Underwater Photographer instructors or Emergency Oxygen Provider instructors.

If you think you'd like to become a PADI Divemaster, visit padi.com for prerequisites for the course. If you meet the requirements, you can start your Divemaster program today with the PADI Divemaster Online course, or by enrolling at your local PADI Dive Center or Resort.

#MyPADIHero

Tell Us About Your Hero

There are tens of thousands of Divemasters around the world who make the PADI System of Diver Education safe for divers every day. Do you have a story about an unassuming yet heroic PADI Divemaster you'd like to share? If so, log on to PADI's Facebook page or Twitter account using the hashtag **#MyPADIHero**, and tell the world all about the PADI Divemaster who helped make you the diver you are today.

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How to protect marine species with your wallet

BY ALEXA WARD, COMMUNITY RELATIONS SPECIALIST, PROJECT AWARE FOUNDATION



Mantas are one of the top attractions at Nusa Lembongan.

STEVE WOODS/BLUE CORNER DIVE

The survival of slow-growing manta rays is in peril. Demand for their gill rakers — the small, feathery structures these filter feeders use to strain plankton — is driven by Asian markets for Chinese medicine, and leads to extensive overfishing of these rays.

Meanwhile, eco-tourism operations that offer manta-diving programs are becoming increasingly popular. Eco-tourism can provide significant economic benefits to coastal communities around the world and, in turn, decrease the demand for profit through overfishing. By participating in responsibly run manta dives, divers can contribute to a growing tourist economy. Travelers can pledge to be eco-tourists, just like marine biologist and Project AWARE supporter Andrew Taylor did.

Four years ago, Taylor opened Blue Corner Dive in Nusa Lembongan, home to large populations of manta ray species, including *Manta birostris* and *M. alfredi*. Knowing that an influx of dive tourists would affect the marine environment, Taylor felt a responsibility to develop environmentally friendly practices to ensure minimal marine impacts.

"We see plenty of interactions that harass or disturb the natural behaviors of marine animals," says Taylor. "Rather than point fingers at marine-tourism operators with environmentally insensitive practices, we work to educate and develop responsible codes of conduct, and encourage the entire tourism community to adopt responsible principles."

Blue Corner Dive has implemented educational components to dive tours, including teaching guests about undersea life and offering marine ecology internships for divemaster trainees.

Blue Corner Dive soon earned its PADI Five Star IDC certification and partnered with Project AWARE to become 100% AWARE by pledging to make a donation for every dive student it certifies to help fund Project AWARE's manta ray protection efforts. Taylor has also collaborated with local tourism and marine environmental organizations to create codes of conduct for divers.

Interested in becoming an eco-tourist?

"It's up to dive guests to conduct background research and support operators who are working to help the marine environment, rather than contribute to the problem," says Taylor. Visit **projectaware.org/action-zone/100PercentAWARE** to locate a 100% AWARE dive center.



GO WITH THE FLOW

Moving water might make shooting a challenge, but it can also bring out the best of underwater subjects



Text and Photos By Alex Mustard

Alex Mustard is a marine biologist who has been a full-time underwater photographer and author since 2004. To view more of his work, visit **amustard.com**.



Fish Formation
As a positive, currents whip fish – the underwater world's least cooperative models – into beautiful, photogenic formations. I planned this shot while finding shelter in the lee of the reef in the background. Then I swam out to this small coral head, puffing and panting, to get my shot.

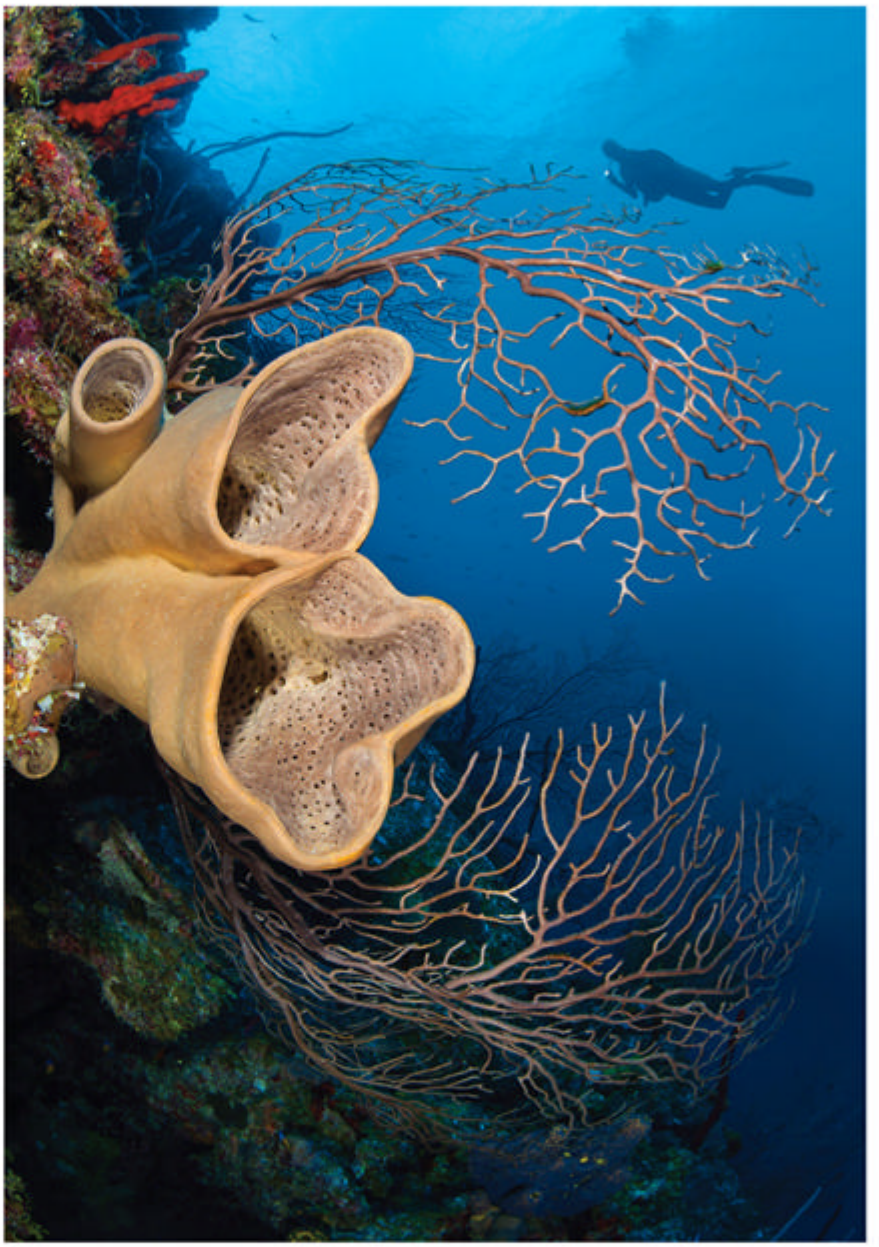
"No current, no fun!" beams Semi, our Fijian dive guide, his tag line neatly summing up every photographer's love-hate relationship with shooting underwater scenes in currents. There's no question that the current breathes life into the underwater world: soft corals unfurl, polyps of sea fans open, fish go into formation, and big beasts appear from the depths. The flip side is that current also makes it difficult for photographers to find the precise position required for framing, lighting and focusing their underwater subjects.

Since many currents are driven by tides, experienced dive operators will typically navigate around sites at slack water or when the current is running in a favorable direction. Once underwater, due to the complex topography of dive sites, currents create everything from calm areas that provide shelter to extremely strong pockets where water is squeezing through at a rapid pace. It's these strong currents that make photography nearly impossible. During these conditions, it's best to let your shot list take a backseat and enjoy the dive. However, currents rarely run forever, and eventually you will find yourself in more-acceptable shooting conditions.

OPPOSITE PAGE
CAMERA Nikon D4, Subal housing // **LENS** Sigma 15mm fish-eye // **STROBES** Seacam 150 // **SETTINGS** *f*/16, 1/250 sec, ISO 320 // **LOCATION** Ras Mohammed, Egypt

BELOW
CAMERA Nikon D700, Subal housing // **LENS** Sigma 15mm fish-eye, plus 1.4x teleconverter // **STROBES** Subtronic Alphas // **SETTINGS** *f*/22, 1/3 sec, ISO 200 // **LOCATION** Grand Bahama, the Bahamas

RIGHT
CAMERA Nikon D4, Subal housing // **LENS** Nikon 16mm fish-eye // **STROBES** Subtronic Alphas // **SETTINGS** *f*/16, 1/25 sec, ISO 200 // **LOCATION** North Wall, Grand Cayman



Set Up for Success

In moving water, wide angle is easier to shoot than macro. Kicking in a current and fiddling with camera settings and strobe positions is a recipe for frustration. Instead, set up your camera for a particular shot, and then drift down the reef shooting it repeatedly. Technically, the image will be the same, but the subject matter will constantly change. When approaching a promising scene, fin gently against the current to slow your pass, take a few frames and drift on.

Get Hooked

Some of the world's best big-animal dives are drift dives found in places such as Palau's Blue Corner, or in the passes of atolls in the Maldives or French Polynesia. To stay in one place in the current, use a reef hook — a metal hook that attaches to one of the D-rings on your BC — and a rock or dead piece of coral.



Hooking on normally will face you into the current and leave you with nothing but butt shots. Attach your reef hook to the side of your BC, and you will automatically rotate onto your side, allowing you to shoot the subjects as they swim past. To make your photos even more dynamic, experiment with long exposures to capture the movement of your subjects.

Model Thinking

Scenery blooms in the current, creating an excellent chance to shoot divers exploring the flourishing underwater scenes. However, working with a model is very challenging in a current because the photographer and model, positioned on either side of the subject, will experience opposite currents. It is much easier to hold position swimming into the current. So remember: If it's easy for you, it will be hard for the model. Most photographers choose to make it tougher for themselves and stress-free for the model.



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Shooting in shallow waters allows for the best strobe of all: the sun



CAMERA SeaLife Micro HD // **STROBES** Available light (8 feet) // **SETTINGS** ƒ/2.8, 1/800 sec, ISO 100 // **LOCATION** Tamarindo Beach, Culebra, Puerto Rico // **CONDITIONS** Sunny and calm, with temps in the low 80s

#MYSEALIFEPIC

I took this shot with my grandchildren the year after I certified them. Tamarindo Beach is a favorite for snorkeling because it is in a protected bay, and has lots of stingrays and turtles. As a PADI instructor, I was looking for an easy shore dive for a refresher course.

— Photo by John Yavorsky

PRO TIP **"When shooting with available light, for the best color and detail, aim in the direction the sun is shining." — *Alex Mustard***

JOHN YAVORSKY/COURTESY SEALIFE

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Gigantic schools of hammerheads draw divers in droves to the Galapagos; although the Maldives is synonymous with mantas, other rays, like this cowtail stingray, abound as well (opposite).

FROM LEFT: BRANDON COLE; FELIPE BARRIO/ULTIMA FRONTERA.

FINS & WINGS

WE'VE FOUND THE 12 BEST PLACES TO DIVE WITH SHARKS AND RAYS



There are a few destinations across the globe known for their epic shark and ray encounters – to name just some: Yap for mantas, Bahamas for Caribbean reef sharks, Western Australia for great whites, Scotland for basking sharks. But where in the world can you check off both species, sometimes on a single dive? We promise you, at these 12 spots, you'll have the chance to giant-stride into a "fins and wings" experience.

/// BY BROOKE MORTON ///

BELIZE

With organized tours generally seeking the big-ticket animals – whale sharks off Placencia and the nurse sharks of Ambergris Caye's Hol Chan Marine Park – to encounter the smaller, perhaps more rewarding, elasmobranchs, you must be willing to be your own tour guide.

"When I first started going to Belize, I knew about yellow stingrays only from books," says underwater photographer Ethan Daniels, who visits the country's atolls annually. He began asking guides for tips on finding them, sighting two to four per week. Then he began noticing more.

"Most elasmobranchs haven't evolved much in 50 million years," he says, "so the habitat they like is totally predictable."

After repeat visits to the same dive sites, he could consistently find them nestled in shallow sandy areas and sea-grass beds.

"Now I find tons, especially just under the dock," says Daniels. "I love their texture, their color pattern and their variability."

In a way, animals like yellow stingrays have shifted his entire underwater focus.

"Most divers like reefs with all the pretty fish, but at this point in my career, I like the sand," he says. "I like finding the camouflaged – the rare – stuff."

splashbelize.com

» **Average water temp** From the high 70s in winter to the low 80s in summer » **What to wear** Dive skin or shorty in summer; 3 mm wetsuit in winter » **Average viz** 100-plus feet » **Best time to see fins** Whale shark migration takes place from late March to June » **Best time to see wings** Year-round



The Red Sea

» **Average water temp** From the low 70s in winter to the low 80s in summer » **What to wear** 3 mm wetsuit in summer; 7 mm wetsuit in winter » **Average viz** 100 feet, except during plankton blooms » **Best time to see fins** Year-round, although oceanic whitetips are most prevalent at Elphinstone Reef from October to December » **Best time to see wings** Midsummer plankton blooms attract mantas and whale sharks; other rays are present year-round

BEHIND THE SHOT: I took this photo at Elphinstone Reef in August. A group of five sharks was circling under our boat, which is strange behavior in this season. I had been diving in the same place with these sharks in October and November, but never in summer. Diving with oceanics is absolutely different from diving with other sharks. They are not afraid of divers, and in fact, are very curious. You must stay under the boat, 15 to 25 feet deep, and pay attention to your back, with your buddy always behind you in order to check where they are. Despite their curiosity, we never felt in danger, as long as we respected the sharks. – *Carlos Martinez*



FROM LEFT: ETHAN DANIELS/SEAPICS.COM; CARLOS MARTINEZ

"The Red Sea isn't known for sharks if you consider land-based operations — in places like Sharm el-Sheikh and Hurghada, the sharks are generally shy," says Wayne Hasson, Aggressor Fleet president. "But where we dive, at islands like the Brothers, it's a shark fest." That site, 42 miles offshore, along with other spots like Elphinstone Reef, sees little boat traffic beyond a handful of liveaboards, like the M/V *Red Sea Aggressor*.

"You're in the water, and suddenly, you can't see anything," says Hasson. "Oceanic whitetips approach from behind and swim right in front of your face. They anticipate your every move — you change direction and they change direction, sometimes a second before *you* do."

Blue-water hunters, these sharks are accustomed to traveling long distances with few prey opportunities.

"The first oceanic whitetip I saw circled me at 100 feet," says Hasson. "I made my way back to the boat and it followed to the surface. Compare that to most sharks who see you and swim the other way."

aggressor.com

Oceanic whitetips, along with pilot fish escorts, are frequently seen on Elphinstone Reef; yellow stingrays are common in Belizean waters (opposite).





Never fear – the gigantic whale shark (they can grow to nearly 40 feet long) seeks a mouthful of plankton; Raja Ampat is a mecca for oddities like the wobbegong shark (below).

BEHIND THE SHOT:
My guide for this trip was filmmaker Luke Inman, who lives in La Paz. We got out early with a private boat. The water was very calm, the sun was beginning to shine, and we were the only boat in the area. After just five minutes, fins pierced the surface. I slid quietly into the planktonic water. I was not moving when the whale sharks began turning toward me with mouths wide open. I set up my camera, adjusted the sun to my back, and started to shoot. They were not afraid and came so close to my fish-eye lens that I had to move back. I stayed with the sharks about 20 minutes before another dive boat appeared.
– Greg Lecoeur

Baja & the Sea of Cortez

» **Average water temp** From high 60s in winter to low 80s in summer » **What to wear** 3 mm shorty or wetsuit in summer; 5 mm wetsuit and hooded vest in winter » **Average viz** 60 to 100 feet » **Best time to see fins** Hammerheads and whale sharks inhabit the Sea of Cortez year-round » **Best time to see wings** Mobula rays are common year-round

Thank Mexico's Sea of Cortez currents for making whale shark encounters far more predictable here than elsewhere — and longer lasting.

Ricardo Fifield, manager of the Cortez Club, starts his tours just as tides begin dropping. His scuba operation is based in La Paz, found along the eastern tip of the Baja California peninsula.

"When we go with the right current, the whale sharks are feeding, stopping for 10 minutes at a time," says Fifield. The filter feeders typically power themselves through the plankton buffet, but when currents deliver the meals, it's less work for the sharks — and the snorkelers hoping to keep up.

La Paz is also known for a whale shark season that's ultra reliable.

"For the past 10 years, at the end of September, they show up," says Fifield. "Usually they leave in March, but this year, they stayed. It's May, and we still have 20 in the bay."

cortezclub.com

RAJA AMPAT

Wobbegong sharks are among the most difficult to spot. The symmetrical, mottled pattern covering their backside mimics shell piles on sand and barnacles encrusting rocks, precisely where the animal likes to rest. "But what surprises divers most," says Leticia Sanchis of Worldwide Dive and Sail, a liveaboard fleet with vessels in Indonesia, "are the small, weedlike whisker lobes surrounding their jaw." Sanchis says two dive sites in Raja Ampat can be counted on for sightings: Blue Magic and My Reef .

worldwidediveandsail.com

» **Average water temp** High 70s to low 80s » **What to wear** 3 mm wetsuit » **Average viz** Consistently over 100 feet » **Best time to see fins** Sharks are present year-round » **Best time to see wings** Mantas visit the dive site Manta Sandy year-round



FROM TOP: GREG LECOEUR; TOBIAS FRIEDRICH. OPPOSITE, CLOCKWISE FROM TOP LEFT: JEFF ROTMAN; JEFF YONOVER; ALLISON VITSKY SALLMON; IMAGEBROKER/ALAMY



Everything, all the time: Cocos Island is one of the world's premier dive destinations for big animals like marble rays, scalloped hammerheads, reef mantas, and piles – literally – of whitetip reef sharks.

Average water temp High 70s » **What to wear** 5 to 7 mm wetsuit with gloves » **Average viz** 20 to 80 feet » **Best time to see fins** May to November brings the most schooling hammerheads » **Best time to see wings** Mobulas are most abundant from December to May

COCOS ISLAND

If you're curious as to why schools of hammerheads still travel in packs of 200 off Costa Rica's Cocos Island – enough to block sunlight from the reefs – look first at travel times. Crossing to Cocos Island from Puntarenas, midway along the country's Pacific coast, takes at least 32 hours, covering some 300 miles.

"On Cocos, you're not allowed any habitation or marine sports other than three boats – that keeps the place wild," says Avi Klapfer, founder of the company overseeing M/V *Undersea Hunter*, one of the three permitted vessels.

As to why the hammerheads make the crossing, it's theorized that the destination acts as a navigational waypoint for the migrating sharks.

Winters see the bigger schools, with summer numbers dropping to 50 or so per dive.

Still, it's reliable. Says Klapfer, "Hammerheads are pelagic hunters and can roam any oceans, and yet, Cocos remains one of the most predictable places to see them in the wild."

underseahunter.com



Galapagos

» **Average water temp** From 70°F to 80°F
» **What to wear** 5 to 7 mm wetsuit
» **Average viz** 30 to 70 feet » **Best time to see fins and wings** July to November — when plankton-rich waters bring mantas and whale sharks to the area — is peak season for divers

It's as if authors and naturalists Ned and Anna DeLoach need two sets of books cataloging marine-animal behavior: One for tried-and-true destinations, and another for reefs so remote, they alter interaction. Ecuador's wild gem, the Galapagos Islands, found 563 miles off the country's west coast, is just that.

"The eagle rays in Galapagos are like no other eagle rays I've seen," says Aggressor Fleet's Wayne Hasson. The *Galapagos Aggressor III* offers year-round charters to the archipelago.

The beak-nosed animal is known for being skittish, easily spooked by divers' sudden movements; eagle rays often avoid humans, tolerating their presence only at cleaning stations.

"Here, eagle rays swim up to you, coming within touching distance — I don't know why," says Hasson.

That lack of fear isn't limited to eagle rays. Hasson has seen as many as 10 whale sharks on dives near the islands of Wolf and Darwin. "They're not the least bit afraid of humans — it's unbelievable."

His favorite encounter was with five. "Two were swimming next to me, two were on the surface and one was below me," he says. "Unfortunately, you can't take that picture."

aggressor.com

GREG LECOEUR. OPPOSITE: CLAUDIO CONTRERAS KOOB



BEHIND THE SHOT: Arriving at Jardines de la Reina was like stepping into a dream. We could see sharks cruising all around the boat; anxiety was building up, and I was desperate to get into the crystal-clear waters to be close to my most beloved animals. I had seen sharks before, but nothing prepared me for this experience – silky sharks passing less than 3 feet before me, full of curiosity and eager to see if there was something to eat. Avalon Cuban Diving Centers brings a metallic case full of fish scraps that's tied to a rope about 15 feet under the boat – enough to get the sharks excited, and enough to get us divers exhilarated. – *Claudio Contreras Koob*

Cuba

» **Average water temp** From the high 70s in winter to the high 80s in summer » **What to wear** 3 to 5 mm wetsuit » **Average viz** From 30 to 100-plus feet, depending on tides » **Best time to see fins and wings** Silky sharks, southern stingrays and eagle rays are common year-round

"Before you go in the water, you already see the silky sharks — they are waiting for you," says Filippo Invernizzi.

He's one of the owners of Avalon Cuban Diving Centers, which takes guests to Jardines de la Reina, aka Gardens of the Queen Marine Park. The 1996-established reserve is bigger than the Florida Keys, and is one of the largest in the Caribbean. It protects much of the eastern half of Cuba's southern side, and has recently witnessed an increased shark population.

Thanks to tagging, local scientists are realizing that the returning sharks are ones that had previously disappeared from the area. The resident population has stabilized so much that on every dive, between 20 and 60 silky sharks appear. Southern stingrays and eagle rays also are common on almost every dive.

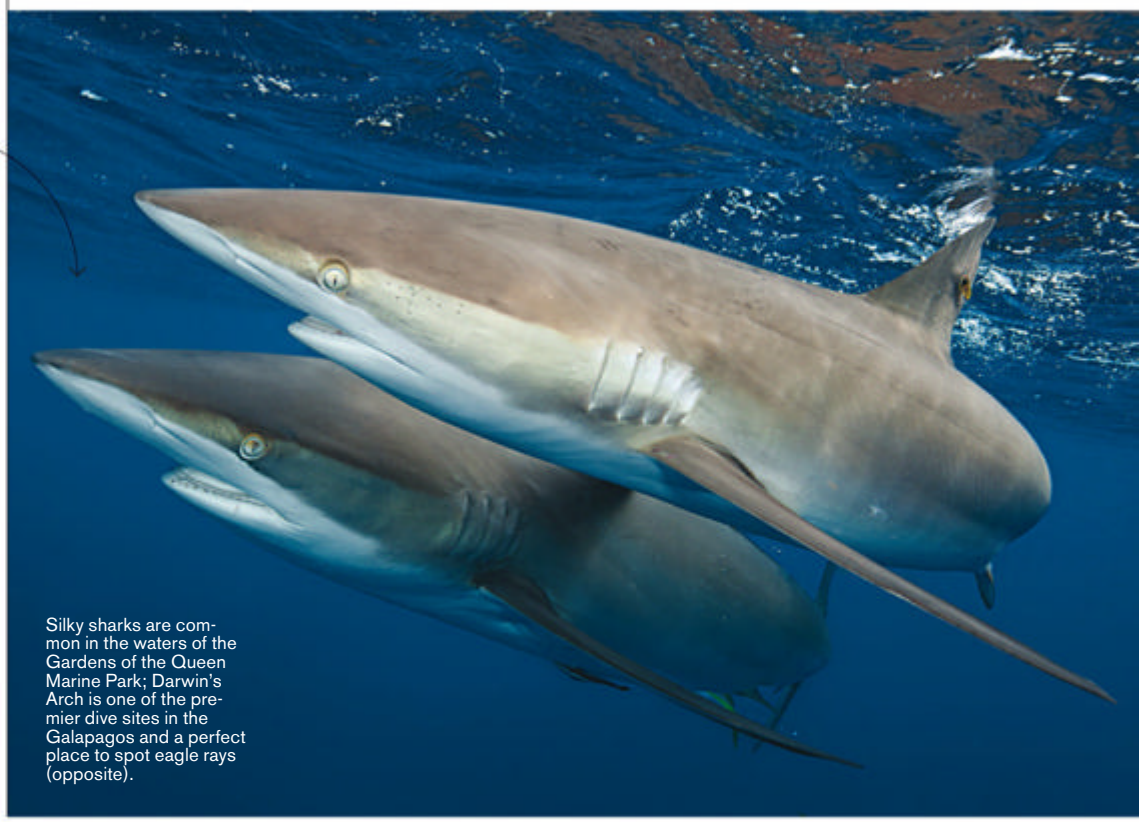
The sharks "are with you all the time," says Invernizzi. "They are so curious that they get close enough that you could almost touch them."

At most sites, divers also witness schools of grouper and tarpon so thick that silky sharks disappear inside.

Adds Invernizzi, "The attraction at the end isn't even the sharks — it's the corals and marine life, and yes, by the way, you have 40 sharks swimming around you."

It's possible proof that one of the Caribbean's largest marine parks very well might be its healthiest.

cubandivingcenters.com



Silky sharks are common in the waters of the Gardens of the Queen Marine Park; Darwin's Arch is one of the premier dive sites in the Galapagos and a perfect place to spot eagle rays (opposite).



YAP

» **Average water temp** Mid-80s » **What to wear** 3 mm shorty or wetsuit » **Average viz** 40 to 100 feet » **Best time to see fins** Year-round » **Best time to see wings** Year-round; encounters are more reliable from May through December, but manta mating season is January through April

There's no river runoff, no pollution and plenty of plankton in Yap, making it one of the planet's few places with a year-round manta population.

Plus, says Bill Acker, founder of Yap Divers, "The waters away from Yap are a virtual desert, so for them to leave, they have to give up their comfort zone."

More predictable manta encounters happen from May through December, thanks to seasonal cleaning stations. Mantas mate from January through April, so although they're seen more sporadically, the payoff can be huge.

"During mating season, divers can see a manta mating train of 20 individuals twisting, turning and tumbling," says Acker.

Given Yap's steady population of resident mantas, it shouldn't be surprising that it's also a shark hot spot. Ask Acker to name the one species he encounters most, and he'll pause, then name several: silky sharks, oceanic silvertips and nurse sharks.

Says Acker, "You really realize how magnificent these sharks are when you're surrounded by 30 of them in gin-clear water."

mantaray.com



Isla Mujeres

» **Average water temp** Low to mid-80s » **What to wear** 3 mm shorty or wetsuit » **Average viz** 60 to 100 feet » **Best time to see fins** Whale sharks descend in droves on Isla Mujeres from June to December » **Best time to see wings** Mantas too are drawn to the area from June to December; mobulas are more common from January through May



SHAWN HEINRICHS. OPPOSITE: JOSEPH TEPPER

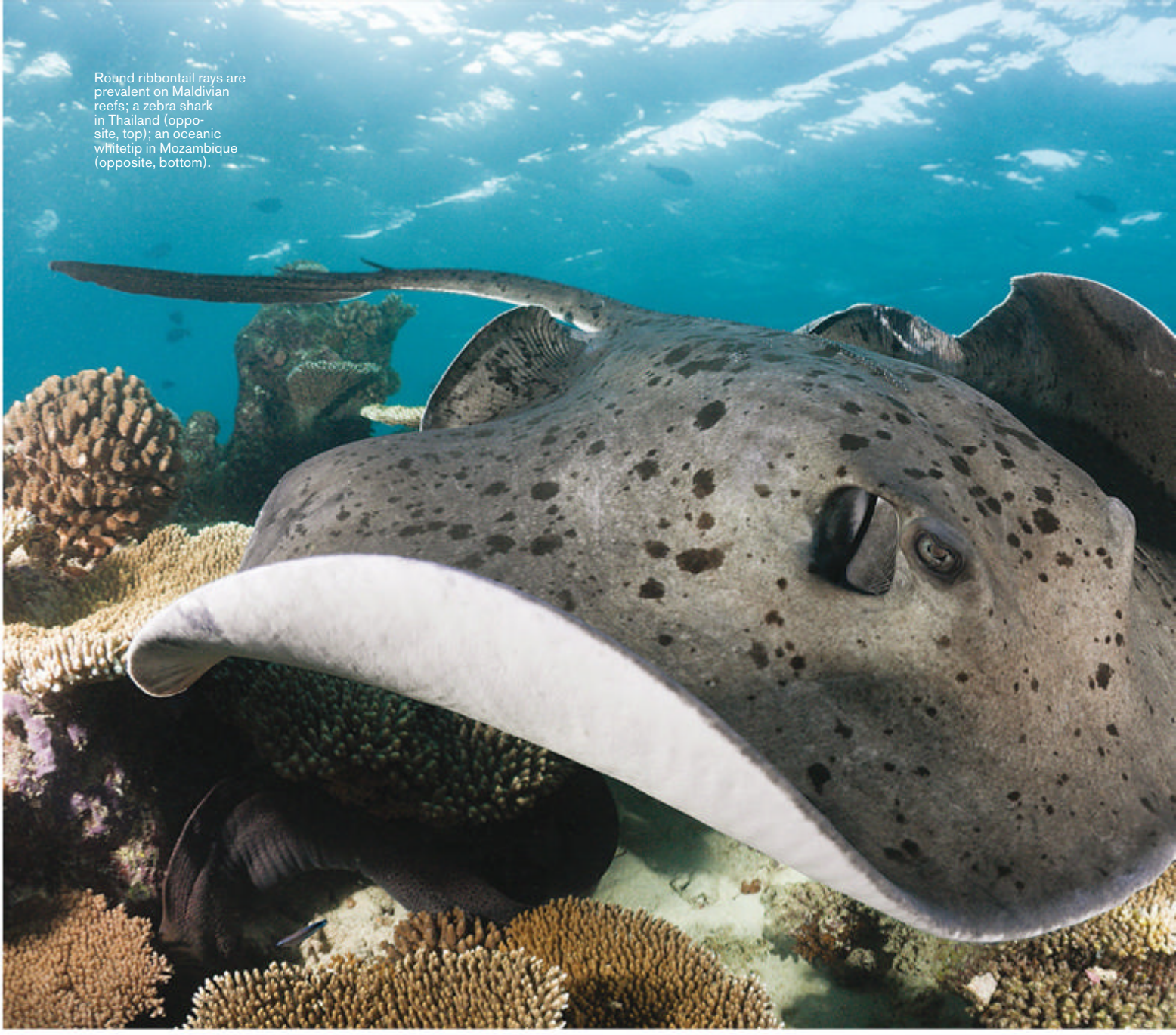
"Every summer, a river of plankton flows along Cancun. It's from the mixing of the Atlantic and Gulf of Mexico currents," says Christian Casqueiro, of Pro Dive Mexico. And that plankton attracts whale sharks in numbers higher than any other location on the planet. Because of the reliable aggregation, the area has become an underwater-photography hot spot.

"On good days," says Casqueiro, "you get more than 100 on the surface." On the best day — Aug. 12, 2009 — that particular patch of Caribbean Sea set a world record: 420 whale sharks in 7 square miles. The only locals who aren't thrilled about the record-setting numbers of whale sharks are the resident mobula rays.

"When you have that many sharks, you don't have as many mobulas," says Casqueiro. Mobula rays tend to stay deeper when packs of 20 or more whale sharks are at the surface, but during the winter, the mobulas have free reign. Adds Casqueiro, "You see banks of 20, 30, 50 — all flying together."

prodivemex.com

Whale sharks are drawn to the waters of Isla Mujeres every summer by plankton-rich waters; Yap is a hot spot for both sharks and rays (opposite).



Round ribbontail rays are prevalent on Maldivian reefs; a zebra shark in Thailand (opposite, top); an oceanic whitetip in Mozambique (opposite, bottom).

Maldives

» **Average water temp** Low to mid-80s
» **What to wear** 3 mm shorty or wetsuit
» **Average viz** From 70 to 200-plus feet
» **Best time to see fins** Year-round » **Best time to see wings** Year-round, although mantas do migrate throughout the archipelago seasonally

In the Maldives, a shark's temperament depends on current.

"Most of the time, the gray and whitetip reef sharks don't get close, but you see big numbers," says Abo Latheef, dive manager of the M/V *Four Seasons Explorer*, which cruises the Male and Baa atolls in the Arabian Sea.

But with current comes closeness.

When tidal changes bring bigger flows (November to March sees the strongest currents), Latheef leads divers to drop in and hold on, staying low and still. "The sharks swim up and down 5 feet in front of you," he says. The sharks face upstream, taking advantage of a current carrying in small fish. "You spend the whole dive just with them."

As for rays, their behavior depends less on sea conditions and perhaps more on each other. Marble rays are the most common; Latheef reports seeing them on every other dive. His best encounter happened at night, when he spotted a female. "She was 9 feet across — that's as big as they grow," he says. Six males pursued her, and Latheef and his guests watched for the entire 40 minutes of bottom time.

Says Latheef, "It's rare for any diver to see mating behavior for any fish — let alone one so big."

fourseasons.com

REINHARD DIRSCHERL/OCEAN-PHOTO; OPPOSITE, FROM TOP: LIA BARRETT/SEAPICS.COM; C&M FALLOWS/SEAPICS.COM



BEHIND THE SHOT: Two years ago, I dived at Ellaidhoo, one of my favorite islands in the Maldives. Diving here often means diving with rays. A little over 650 feet to the left of the Ellaidhoo jetty, I found a beautiful coral garden 30 feet deep, with huge table corals. Several round ribbontail rays hunted between the coral blocks. One of them was very curious about me – maybe he thought I had some fish in my BC? I waited for the perfect moment to shoot this image, and I got it. *– Reinhard Dirscherl*

THAILAND

» **Average water temp** Mid-80s » **What to wear** 3 mm shorty or wetsuit » **Average viz** 80 to 100 feet » **Best time to see fins and wings** The dive season at Koh Bon and Richelieu Rock is limited to the months of October to early May, as rough surface conditions prevail during the rest of the year

"Leopard sharks just don't care about you," says Fabian Teruel. He's been diving Thailand for the past 14 years, and now helps manage Khao Lak Scuba Adventures and its fleet of six liveaboard vessels traveling between Koh Bon, the Similan Islands, and Richelieu Rock. He says he sees the most sharks, including the more-timid whitetip and blacktip sharks, in the Similan Islands.

But it's the leopard sharks he seeks out.



"During the day, they rest," says Teruel, "or they're mating – all right in front of you."

Teruel's favorite leopard shark encounter happened in the Similan Islands while he was teaching a PADI Discover Scuba Diving experience in 9 feet of water and one swooped low. "It came down, down, down – I put my hand on my head for protection, and it landed on my hand," he says.

"The student totally freaked out," says Teruel, "but I think everybody else would want that – as divers, we all want to see sharks."

khaolakscubaadventures.com

MOZAMBIQUE

"As I'm speaking now, the hairs on the back of my neck are standing up," says Steve Mank Counsel, owner of Peri-Peri Divers, based in Tofo Beach on Mozambique's southern coast. He's just described an encounter during the sardine-run season – June to September – where he'd been aboard a boat in search of humpback whales. Instead, he happened upon a pod of killer whales that had just attacked a dolphin. Counsel and two other guides jumped into the water and began filming. "Seeing killer whales next to humpbacks next to bull sharks doesn't happen every day," he says.



» **Average water temp** From 72°F to 82°F » **What to wear** 3 to 5 mm wetsuit » **Average viz** 30 to 100 feet » **Best time to see fins** The annual sardine run, roughly from June to September, brings in the sharks » **Best time to see wings** Mantas are here year-round

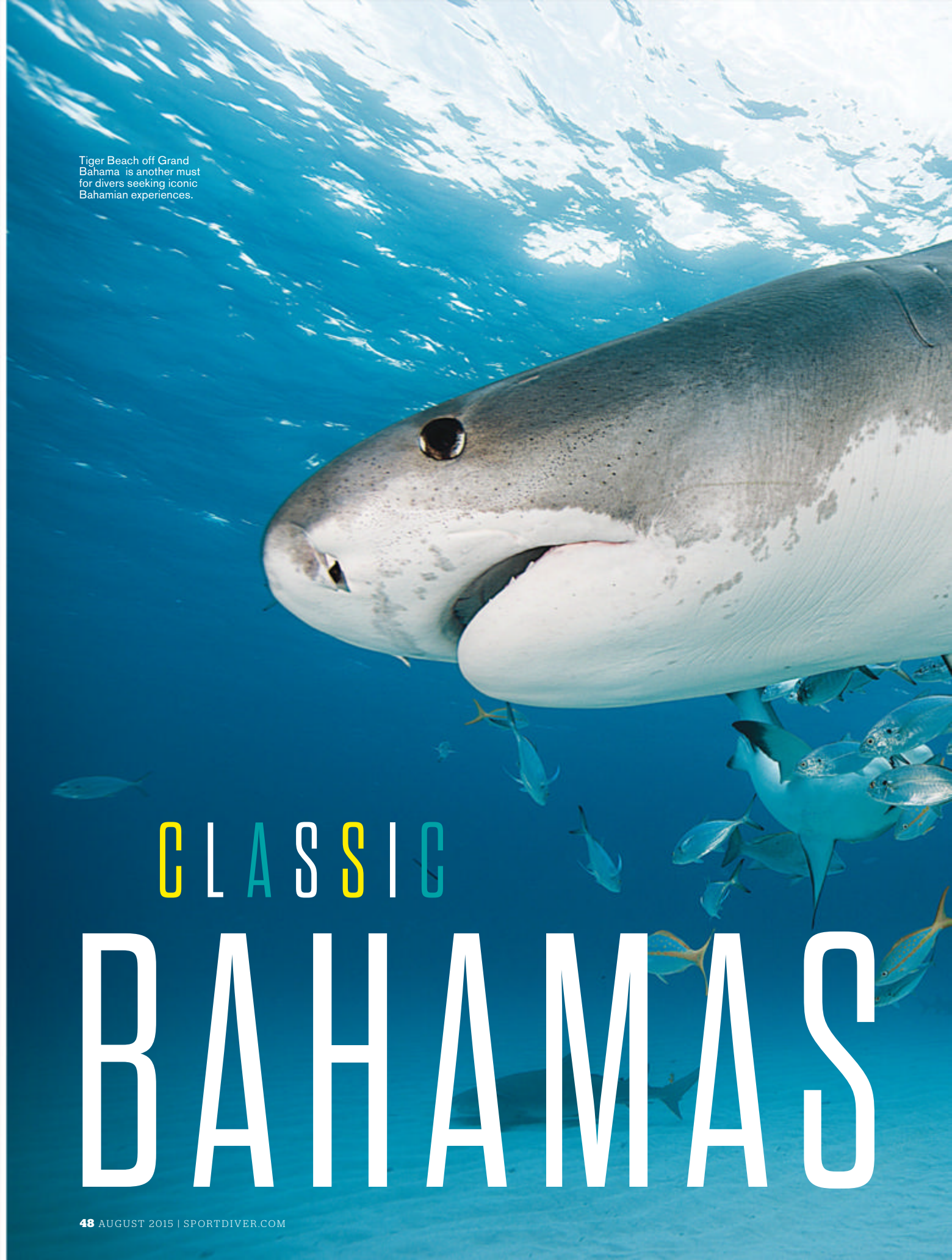
But sardine season does guarantee a circus of excitement.

"We see tigers and oceanic whitetips once every few weeks – and tons of bull sharks all the time," says Counsel. The bulls tend toward shyness, but the big shoals draw them out, along with every other hungry predator in the area.

"It's a layered system: As the sardine run comes down the east coast of Africa, whales are chasing that water, looking for a specific temperature to have babies," he says. And everything follows.

"Once the sardines are taken, predators are looking for something else," he says, pointing out that most of the area's mantas have bite marks on their wings. "It's a wondrous amount of marine life all feeding off each other."

peri-peridivers.com



Tiger Beach off Grand Bahama is another must for divers seeking iconic Bahamian experiences.

CLASSIC BAHAMAS



FELIPE BARRIO/ULTIMA FRONTERA

FROM SHARKS TO WALLS, BLUE HOLES, WRECKS AND DRIFTS, THE BAHAMAS BOASTS ICONIC DIVES FOR EVERYONE. WE'VE FOUND 10 OF THE BEST. »»»» BY TERRY WARD

Visiting New Providence or Grand Bahama and ticking the Bahamas off your been-there-dived-that list is akin to hitting up Times Square and Central Park and claiming you've done New York City — they're vital to the experience, yes, but far from the full package. There's so much more to this coral archipelago of some 700 islands.

A shark sanctuary since 2011, the Bahamas is famous for hammerheads, bulls, tigers and more. But you can also gear up for riveting drift dives, shipwrecks and classic blue holes. And just when you think you've exhausted all the underwater thrills, you'll hear whispers of another Out Island cut, teeming with life, and find yourself boarding a puddle jumper or the mail boat for a new dive surprise.

We talked to the divers who know these islands best to dig up the definitive diving experience in their watery backyards — that one dive you absolutely cannot miss, everywhere from Bimini to San Salvador.





UNEXSO handlers have been feeding Caribbean reef sharks on Grand Bahama for more than two decades.

CLOCKWISE FROM LEFT: SHANE GROSS; CHRIS A. CRUMLEY/ALAMY; JAD DAVENPORT/NATIONAL GEOGRAPHIC CREATIVE/CORBIS

GRAND BAHAMA
UNEXSO SHARK DIVE

Marking its 50th anniversary in 2015, UNEXSO is widely regarded as the pioneer of shark diving in the Bahamas, so it's fitting that its Shark Dive is the classic here. It began in 1993, when a legendary instructor named Ben Rose first began feeding Caribbean reef sharks and adding divers to the mix for an up-close look at the action. Of course, almost everyone with a pulse was wowed. The feeding dives remain wildly popular. "The movements of the feeder are much like a ballet," explains Linda Osborne, UNEXSO's general manager. "Although it's a feeding dive, it's a dive where the handlers come in close, connecting with the animals." And the fact that the sharks are hand-fed rather than with a spear sets UNEXSO apart, she says. "We love this dive because it has been fundamental in creating a different perception of sharks across the diving industry, but especially in the Bahamas." If you get hooked, consider coming back for a one-on-one course to learn to feed the sharks yourself with Cristina Zenato, a member of the Women Divers Hall of Fame. **unexso.com**

ANDROS
OCEAN BLUE HOLE



A cave system at Andros' Ocean Blue Hole.



Great Cut, San Salvador

What surprises most first-time visitors to Andros is the island's sheer scope. Stretching 104 miles long, it's the largest — and least populated — island in the Bahamas, and could hold between its shores all of the Out Islands combined. Diving opportunities include such varied underwater terrain as caverns, wreck dives, shallow reefs and blue holes. Experienced tec divers arrive with an eye on dropping to 185 feet at the site called Over the Wall. For a plunge with broader crowd appeal, Jeffrey Birch of Small Hope Bay Lodge points to Ocean Blue Hole as Andros' iconic dive. "It presents two completely unique and wonderful experiences in a single blue hole," says Birch. At high tide, a dive here takes you over the edge and down to 100 feet for perfect visibility. "You look up and see the classic blue hole with divers swimming through it," he says. During low-tide dives, a mixing-bowl effect plays out at around 40 to 50 feet. "The thermocline gives the water an incredible greenish-blue hue, and you can see soft corals actually bending and water flowing into the blue hole," says Birch. "The thermocline creates underwater rivers in ancient river beds." **smallhope.com**

SAN SALVADOR
GREAT CUT

"It's a long way from home, but it's also right next door," says Tyler Schultz, dive operations manager for Riding Rock Resort and Marina on San Salvador, reachable via daily scheduled flights from Nassau. "You're going to see things here you don't see in other places." Divers know this island for two things: hammerheads — particularly during

spring — and dramatic wall dives. Located on the far-eastern edge of the Bahamas, San Sal is 12 miles long with walls that range from very steep, classic formations, to gradually descending slopes pocketed with cut-throughs and canyons. The island's iconic dive, Great Cut, falls into the latter category. Imagine a cake with a slice toppling off it, and you'll have an idea of its fascinating topography. "You're out on this big coral chunk that's fallen away," says Schultz, "and there are places where you can turn to the west and see keyholes, and swim-throughs that are overhead at about 120 feet." For divers who prefer a shallower profile, there's much to explore in the 60-foot-range too, he says, as the unique topography of the cut often funnels animals inside — hammerheads, reef sharks and turtles, for starters. It's one of many San Sal wall dives, but it's the one that divers ask for again and again. "We know that if we get people to San Salvador, they're coming back," says Schultz.
ridingrock.com



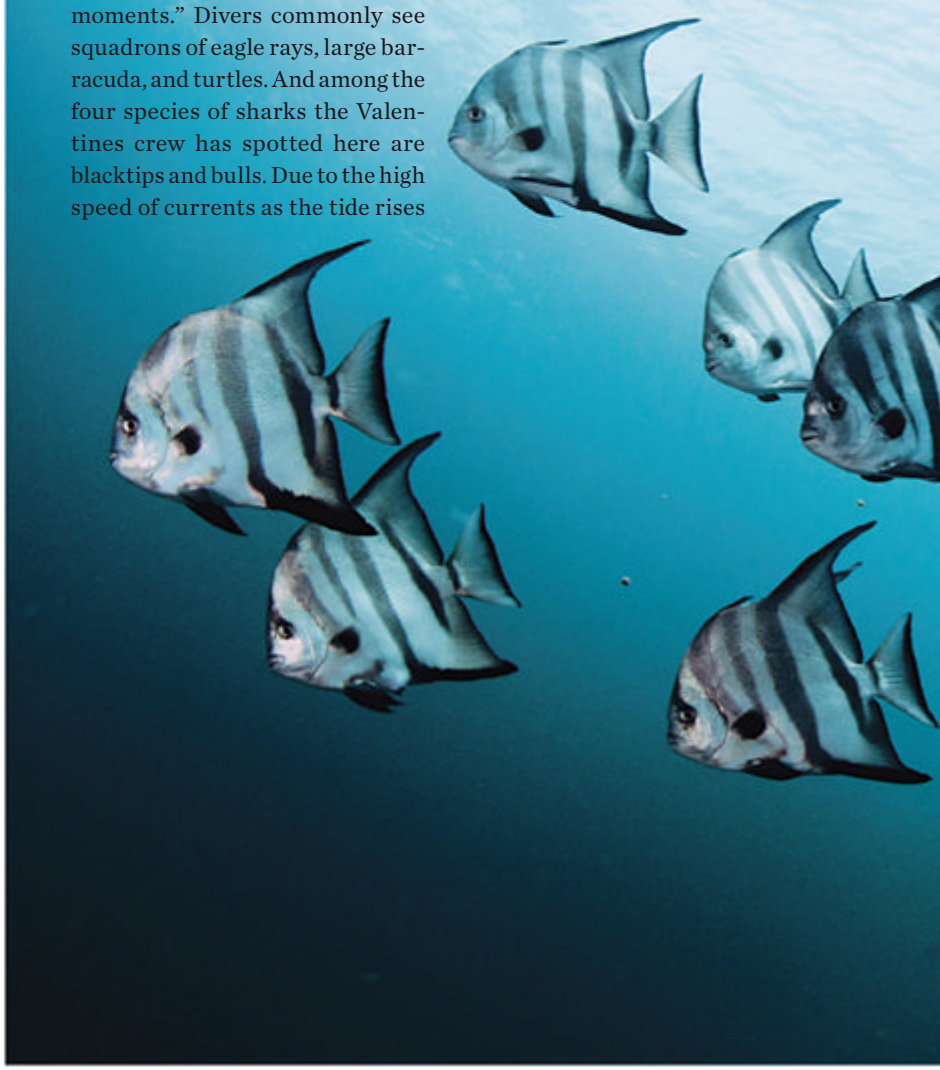
Rolling through Washing Machine in the Exumas.

EXUMA CAYS
WASHING MACHINE

"Enjoy the ride" is the unofficial motto of any liveaboard adventure, and that could be said too of one rollicking drift dive that Peggy Purdy, co-owner of *Aqua Cat* and Blackbeard's Cruises, names as the don't-miss site while cruising the Exuma Cays. At Washing Machine, south of Highbourne Cay, the incoming tide rushes along at speeds of up to 3 knots and carries divers along with it, sucking them through a narrow cut and

HARBOUR ISLAND
CURRENT CUT

An hour-long boat ride from Harbour Island, Current Cut, between North Eleuthera Island and Current Island, offers a cocktail of blood-pumping Bahamas diving. In fact, it's pretty much the perfect pairing of a drift dive and a shark dive. "Everything is bigger at this site," says George Gross, owner of Valentines Dive Center, who considers Current Cut the Bahamas' best drift. "Most divers would think of it as a thrill dive with world-class moments." Divers commonly see squadrons of eagle rays, large barracuda, and turtles. And among the four species of sharks the Valentines crew has spotted here are blacktips and bulls. Due to the high speed of currents as the tide rises and falls — they can reach up to 9 knots — you won't see much coral on the cut's walls. But fish life is prolific, with schools of horse-eye jacks, snapper and Spanish hogfish among the regulars. Dives range from 20 and 75 feet, with swim-throughs adding to the thrills. And most trips to the cut get in three passes of about 15 minutes each, so if you miss something the first time, you can always look for it the next time around. **valentinesdive.com**





A school of Atlantic spadefish cruises through Current Cut.

FROM LEFT: SHANE GROSS; ALEX MUSTARD. OPPOSITE: DAVID VALENCIA



Long Island's Conception Island Wall.

off a ledge before making a sharp bend to the left. "This causes the water to swirl like the water in a washing machine," says Purdy, adding that it's enough to toss divers head over heels if that's the kind of adrenaline they're after. Divers can avoid that effect by sticking to the right side of the passage for a "smooth, fast trip through the cut," she says. Your divemaster will present the two options during your dive briefing, then it's up to you to choose your own mild or wild adventure. Once through the cut, it's all smooth sailing (or rather, flying) as you drift over a large patch reef before ascending to your safety stop. **aquacatcruises.com; blackbeard-cruises.com**

LONG ISLAND
CONCEPTION ISLAND WALL

Long Island is famous for Dean's Blue Hole, the world's deepest known saltwater blue hole at 663 feet. It routinely draws top free divers looking to challenge records, but for those of us happier to throw on a scuba tank, Joerg Friese — president of Stella Maris Estate, Resort Club & Marina — points to the wall diving off Conception Island, an uninhabited island about 13 miles off Long Island's northern tip, as the place to be.





On New Providence, Stuart Cove's shark experience guarantees plenty of face time with reef sharks.

FROM LEFT: KADU PINHEIRO; STEPHEN FRINK/CORBIS

The site, on the leeward side of an uninhabited island, "is still 100 percent pristine," he says, "and constantly washed and supplied by a soft and steady southeast-to-northwest ocean current." Enormous coral heads, pocketed with caves and overhangs, stretch up to 500 feet long, and are so loaded with life, they're veritable reefs in their own right. Grouper, schools of large parrotfish, and reef sharks abound, and it's not unusual to see eagle rays, as well as the occasional manta. Day and overnight trips to the site are available; topside time takes on a Robinson Crusoe vibe on this beautifully barren island. **stellamarisresort.com**

NASSAU (NEW PROVIDENCE)
SHARK EXPERIENCE

Spend any time at Stuart Cove's in Nassau and listen to the swirl of worldly accents — German, Japanese, French, Portuguese — expressing their enthusiasm for what is, without a doubt, New Providence's bucket-list dive. "[Divers] can hardly get their regulators out of their mouths quick enough to share their experiences," says Michelle Cove of Stuart Cove's. That experience is a two-tank dive that starts with a relaxed fin across colorful reefs waving with purple sea fans, where you're almost guaranteed to see a reef shark or three, followed by a shark-feeding dive that puts you in an underwater arena to watch chain-mail-clad shark feeders tempt the Caribbean reef sharks ever closer for a snack. "It's exhilarating, especially as you're gearing up, and just one look over the side of the boat gives you a bird's-eye view of a half-dozen or so sharks circling below," says Kathy Smith, a Fort Lauderdale diver who has visited the Bahamas more than eight times. The message of respect and awareness for the animals is paramount here, says Cove. "Divers realize that these Caribbean reef sharks on our dives are not indiscriminate man-eaters, but majestic, powerful animals to be respected." **stuartcove.com**



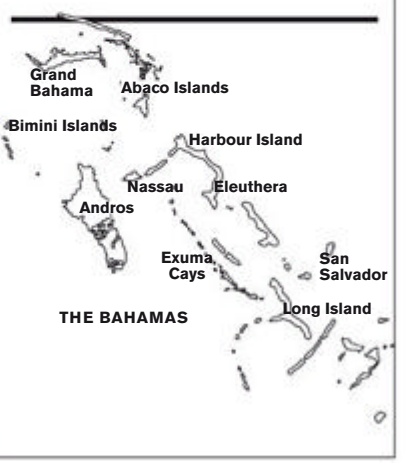
The USS *San Jacinto* at Abaco near Green Turtle Cay.

ABACO ISLANDS
ADVENTURE DIVE & REEF TOUR

Rays, tarpon, turtles, and giant grouper pair with shallow wrecks, wild dolphin encounters, and swimming pigs (Exuma Cays isn't the only place) to ensure there's never a dull diving moment in the Abacos. Sometimes, though, you just want something classic and casual. And for that, you can't beat the mix of experiences offered by the Adventure Dive & Reef Tour with Brendal's Dive Center. You'll leave from Green Turtle Cay with Brendal Stevens, the shop's owner, for reef dives and the chance to hand-feed stingrays on a sandy beach, followed by an Out Island feast of Bahamian lobster tail, conch salad and homemade coconut bread. The dives

DIVERS GUIDE TO BAHAMAS

Average water temp 76 to 84 degrees F » **What to wear** Shorty in summer; 3 to 5 mm wetsuit in winter » **Average viz** 80 to 100 feet » **When to go** Year-round » **For more information**, go to sportdiver.com/bahamas



usually happen at Coral Caverns, where you can fin among schooling silversides at around 50 feet. For easy, breezy diving and a chilled-out island day, it's a perfect Bahamas adventure. **brendal.com**



Blue holes provide perfect photo ops.

EXUMA CAYS
ANGELFISH BLUE HOLE

The Bahamas is home to the only tidal blue holes in the world, considered unique geological features. And divers of all skill sets and experience levels arrive here to drop down into them. It's the contrast between the light-blue shallow water surrounding blue holes and the dark-blue water in their depths that gives these underwater caves their distinctive eye appeal, both topside and down below. You're on the inside looking out as you descend to around 90 feet inside Angelfish Blue Hole, a dive site in an enclosed bay off Stocking Island that's considered a quintessential Exumas dive. "It's classed as a cavern dive — you can see the entrance from the bottom and see the fish swimming around you," says Tamara McGaw-Robinson, owner of Dive Exuma. "At the bottom there's an overhead environment that experienced divers can swim through with a guide." Since the hole is subject to strong tidal pulls, it's dived only at slack tide. Keep an eye out for beady lobster eyes peering from the wall's crevices as you descend. **dive-exuma.com**





Come eye to oddly positioned eye with hammerheads in Bimini.

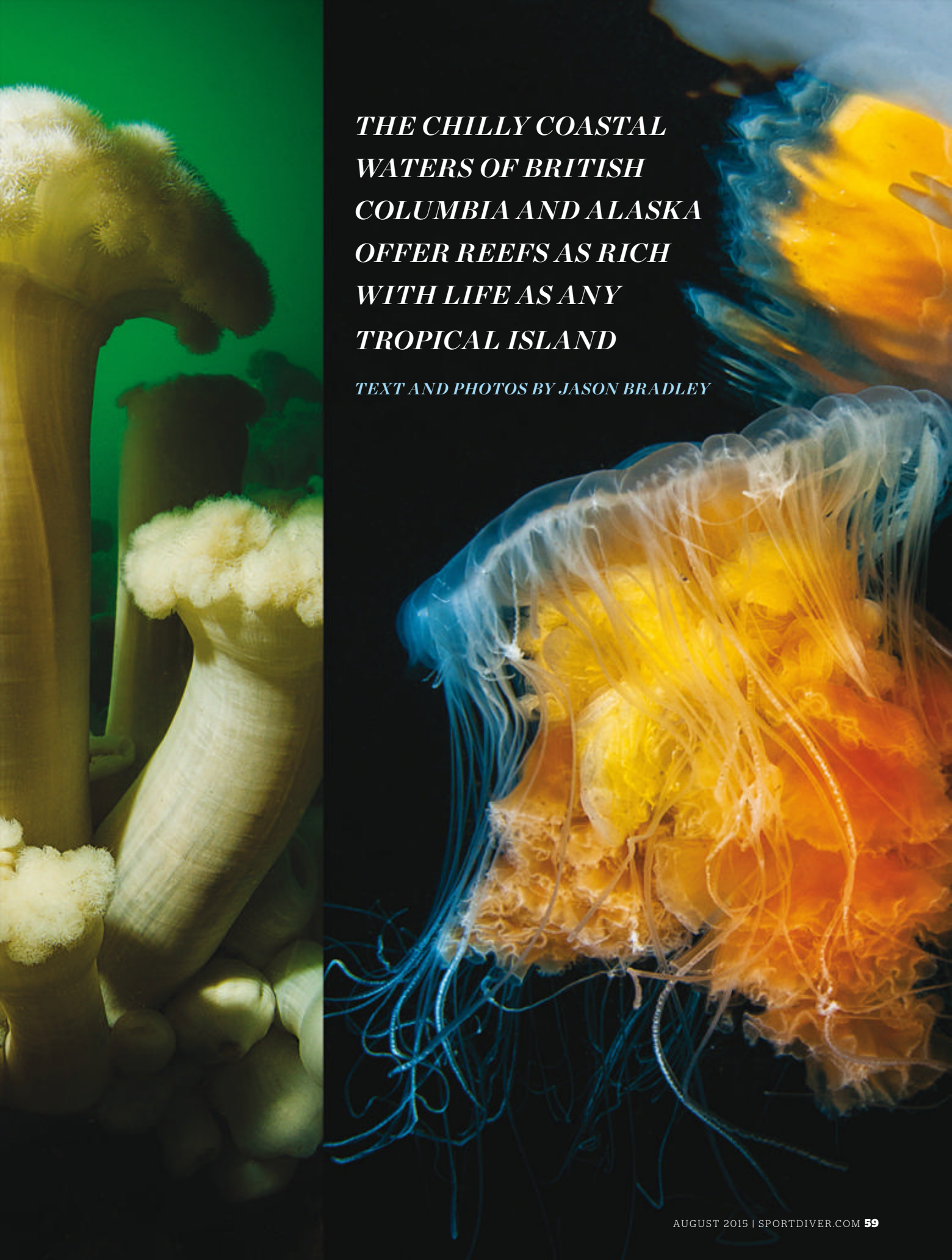
BRANDON COLE. OPPOSITE: GETTY IMAGES/LONELY PLANET IMAGES

BIMINI ISLANDS
HAMMERHEAD DIVE

Bimini's dive delights are many, but one particular species sighting sets the diving apart: Every year from October to mid-March (January and February are peak months), hammerheads converge here at the bottom of a sandy channel between North and South Bimini islands. "The Gulf Stream is like a highway, and this is their pit stop," explains Corey Wood, director of dive operations at Bimini Big Game Club Resort & Marina. "The hammerheads are getting off here and taking a rest." Divers kneel on a sandy bottom in 20 feet of water, watching shark feeders lure animals to within inches of observers. Divers are instructed not to flail their arms, says Wood, but are free to take photos. Divers are nervous at first, he says, "but then it turns to excitement and 'Oh my god, I can't believe there's a hammerhead right in front of my face." **biggameclubbimini.com**



THE COLORS OF THE INSIDE PASSAGE



THE CHILLY COASTAL WATERS OF BRITISH COLUMBIA AND ALASKA OFFER REEFS AS RICH WITH LIFE AS ANY TROPICAL ISLAND

TEXT AND PHOTOS BY JASON BRADLEY





THE FIRST TIME I SAW A GIANT PACIFIC octopus it was fall 2013. I was diving in British Columbia at Dillon Rock, and I was very nervous. I had encountered small octopuses before, but this one was enormous. Its mantle alone was the size of two basketballs, and I would guess its reach from tentacle tip to tentacle tip was around 11 to 13 feet. Of course, my nervousness was just an effect of the unfamiliar. GPOs, as they are called, are smart; they can be unpredictable, and they are *very* strong — like, rip-your-mask-off-with-no-problem strong. I had no previous experience with a big octopus, and this one was by far the largest I'd ever seen. However, like all fears of the unknown, mine quickly dissipated as I got a feel for this magnificent animal's behavior. While other small octopuses I had seen tended to hide or scurry away, this one seemed unfazed by my presence, and even curious about my strobes. My nerves turned to total excitement before long, and to this day it is one



From left: A giant Pacific octopus at Vancouver's Dillon Rock; a curious Steller sea lion plays with the camera's dome port. **Previous page (from left):** A small rose star crawls along an orange sponge; giant plumed anemone; a fried egg jellyfish.

of my favorite animal encounters. But British Columbia diving is not just about weird encounters with alien creatures — it is an experience with dense life on reefs as colorful as you'd see on any dive in the South Pacific.

British Columbia's most renowned diving takes place at a spot appropriately named God's Pocket, located on a small private island near the northeast tip of Vancouver Island. Vancouver is one of the islands in the Inside Passage, a coastal route that stretches from southeastern Alaska through western British Columbia to northwestern Washington state. I dived both British Columbia and Alaska for this assignment, and photographed bright-red soft corals, basket stars, huge vibrant-yellow sponges, giant plumed anemones, red Irish lords, lingcods, wolf eels, bladder kelp, Puget Sound king crabs, sea jellies and a rich diversity of rockfish — just to name a few. If you are searching for a new dive adventure, the Inside Passage is full of colorful surprises.





DIVERS GUIDE TO THE INSIDE PASSAGE

Average water temp 45 to 50 degrees F » **What to wear** Drysuit » **Average viz** 30 to 40 feet » **When to go** April to May; August to October » **For more information**, go to sportdiver.com/britishcolumbia

DON'T-MISS DIVES

Fantasy Island
This is the place for divers looking for wolf eel encounters. Not far from God's Pocket, on the northeast side of Vancouver Island, this dive features big rock piles at 65 to 85 feet, where wolfies can be found just 20 feet from one another. On a recent dive, I counted six separate dens, all within a 60-foot swim of one another.

Browning Wall
When divers speak of British Columbia diving, this is the dive they are likely to mention first. Located near God's Pocket, Browning Wall is a sheer wall filled with lots of color and life. It's accessible to a variety of skill sets, letting divers delve toward deeper waters, hitting about 100 feet, or find their groove in the shallows.

Norris Rocks, Hornby Island
For divers who are in the mood to get nibbled on by a 1,000-pound animal, this is the dive site for animal encounters. Located just offshore of east-central Vancouver Island, the area is filled with playful, sometimes arguably too playful, Steller sea lions. (And if you're looking for a great photo op, they love cameras.)







Clockwise from top right: Fields of icebergs fill the narrow passages that make up Alaska's Tracy Arm fjord; two moon jellyfish (*Aurelia aurita*) swim in sync; a spawning pair of pink salmon work their way upstream in an effort to create the next generation.





DIVERS DAY OFF: Flourishing with life, the forests and waterways that surround dive-friendly God's Pocket Resort beg to be explored. Aside from diving, one of the best ways to take in the area is to kayak along the nearby coves or beaches. To tackle even more dry time, the trails found behind the resort will lead you through lush, temperate rainforests filled with huge, moss- and lichen-covered spruce trees.

Along the east side of Vancouver Island, an easy way to arrive to the area is through the town of Nanaimo. Once here, the best place to pull up to the bar for a beer and a bite is at Carlos O'Bryan's, located on the water in the Nanaimo Marina.

The town of Campbell is another must-see stop. Campbell is a sizable town with great shopping and restaurants, but it is also the gateway to Strathcona Provincial Park and the Discovery Islands — a group of small islands jammed between Vancouver Island and mainland British Columbia. While here, pack your visit with a great day-hike, bike-trail or kayak excursion.

If you happen to be in Campbell in the fall, you've arrived just in time for the salmon run. Hire a local guide to take you snorkeling with the salmon as they fight their way upstream.







Clockwise from top right: A harem of Steller sea lions guards its spot on the rocks in southeast Alaska; a diver explores the crystal-clear waters of Hussar Point in Vancouver's Browning Pass; a decorated warbonnet (*Chirolophis decoratus*) rests in the safety of a cloud sponge.

World's Best...

MINI LIVEABOARD SAFARIS

Short on vacation days? These eight quick getaways to some of the world's best dive destinations deliver all the thrills found during longer trips.

BY BROOKE MORTON

SD 08/15



Three or four days aboard the *Four Seasons Explorer* means three dives a day.



FROM LEFT: DAMIEN MAURIC; BRIAN DOMBROWSKI

1 MALDIVES

One of the only scuba liveaboards with an onboard spa, the high-end, 129-foot M/V *Four Seasons Explorer* caters to 22 guests as it travels to the remote reefs of the Maldives, from Kuda Huraa resort to Landaa Giraavaru resort and back again, stopping at Male and Baa atolls. Each day sees just three dives, but it's an itinerary that allows time for lolling on uninhabited white-sand beaches, plus waterskiing, wakeboarding and kayaking. When you do don a tank, you'll see eagle rays, wrecks, and thick schools of fish such as rainbow runners, batfish, Moorish idols, and sweetlips. May to November, plankton blooms attract whale sharks and mantas, so sightings are likely. December to April, the water clears, offering visibility of 100 feet and greater.

fourseasons.com



2 DRY TORTUGAS NATIONAL PARK, FLORIDA

"Ninety percent of my people are return guests," says Capt. Rick Pitts of those booking weekend trips May through December aboard his vessel, the 100-foot M/V *Ultimate Getaway*, bound for Dry Tortugas National Park, 67 miles south of Key West, Florida. The conditions and slight current make diving best suited for those with at least an intermediate ability, capable of six to eight dives a day. "It's a trip for people who are already comfortable in their gear and ready for unrestricted reef access," he says. The typical profiles follow 75- to 12-foot-deep ledges, plus pinnacles rising from 90 to 55 feet. "On the reefs, you'll see pillar corals — those fuzzy-looking tall stalks that aren't found in the Keys," says Pitts. "Plus, goliath grouper everywhere and billfish swim right up to you, and we get the occasional whale shark."

ultimategetaway.net

3 FLOWER GARDEN BANKS NMS, GULF OF MEXICO

"You get all the Caribbean fish, but you don't need a passport," says Sharon Cain of Flower Garden Banks National Marine Sanctuary in the Gulf of Mexico, about 100 miles off Freeport, Texas. Cain is owner of M/V *Fling*, a 28-passenger vessel running three-day trips February through October to the sanctuary's coral reefs, formed atop three underwater mountains, West Bank, East Bank and Stetson Bank. All these sites, plus some oil rigs popular with divers, are famous for encounters with big stuff, from mantas and schooling hammerheads in spring to tuna and silky, bull and blacktip sharks year-round. The weekend trips depart Friday night and return Sunday before 6 p.m., and include seven dives. *Fling* also runs coral-spawning trips on the eighth day after August's full moon; in 2015, August will see two, so two coral-spawning charters will witness the phenomenon — which is also prime time for whale sharks lured in by the spawn.

flingcharters.com



4 GREAT BARRIER REEF, AUSTRALIA

Mike Ball Dive Expeditions' three-night Cod Hole and four-night Coral Sea fly-and-dive safaris deliver all the Great Barrier Reef's highlights — schooling giant trevally, soft-coral gardens, bumphead parrotfish — while cutting down at-sea travel times. Divers booking the full seven-day tour spend 12 hours in transit to Cod Hole from the departure city of Cairns, Australia. Those on the shorter trips start or end their safari at midway point Lizard Island, so cut off some travel time with a flight to or from Lizard Island. Voyages include stops at Cod Hole, home of barrel-size grouper that easily warm to divers. On the three-night trip, guests also experience sites like Steve's Bommie, a garden of plate corals swarmed by anthias and reef fish. The four-night, 14-dive itinerary moors at the site Amphitheater for a feed that attracts upwards of 20 gray and whitetip reef sharks. Plus, you'll drift dive North Horn, home to more predators.

mikeball.com



5 GUADALUPE, MEXICO

You'll likely be sleeping when the M/V *Horizon* clears Mexico customs, making this among the most painless treks to Baja. The flip side: You'll log roughly 34 hours in transit, which is why the trips take five days. The reward is guaranteed encounters with 15-foot great whites, most of which belong to a community of 100-some identified regulars. "It's thrilling," says Terry Salmon, general manager for the charter company. "In the cage, you're that close to an incredibly big and powerful animal that's dangerous." The company has been diving the area since 2001, offering trips from early August through mid-November. The boat accommodates 30 guests in two-person cabins, but takes only 16 passengers on these long-haul trips to afford the group more space.

horizoncharters.com



6 CHANNEL ISLANDS, CALIFORNIA

In Southern California's Channel Islands Marine Sanctuary — comprising five of the eight Channel Islands — diving kelp forests is not unlike hiking among redwoods — greenery towers overhead, sometimes as tall as 120 feet. This is just one of the highlights of the two-, three- and four-day liveaboard trips that target one of four general areas: the Northern Channel Islands of Anacapa, San Miguel, Santa Rosa and Santa Cruz; the Southern Channel Islands that include Catalina and Santa Barbara; inshore wrecks; and offshore sites such as Cortes Bank, the fleet's most popular site with locals. Aside from kelp, the other prime attraction is the population of seals and sea lions. You'll also dive with moray eels, bat rays, octopuses and 500-pound black sea bass. As for the three-vessel fleet, *Truth* carries 45 passengers, and *Vision* and *Conception* each carry 46, all in open-berth configurations.

truthaquatics.com





7 KOMODO, INDONESIA

M/V *Tatawa* offers three- and five-day trips through Komodo National Park, home to mantas, frogfish, nudibranchs and, yes, those dragons. The ship's itinerary depends on weather conditions, as well as the wishes of the eight passengers. The 80 or so dive sites — you'll visit up to four a day — include places such as Manta Alley, where tidal changes between an offshore island and its pinnacles sweep in clouds of plankton, attracting trains of mantas. The Komodo stretch is also a macro wonderland where night dives yield encounters with oddities like seamoths, coconut octopuses, ghost pipefish, juvenile batfish and much more.

divekomodo.com



8 SIMILAN ISLANDS, THAILAND

Catering to Thailand's adventuresome backpacking crowds, PADI Five Star IDC Khao Lak Scuba Adventures operates six liveaboard vessels in the Andaman Sea, departing the coastal town of Khao Lak, north of Phuket. All gear, plus meals and snacks, is included. Each of the six vessels is configured differently; the M/V *Manta Queen 6* takes 16 passengers; the *Manta Queen 3*, 31. Itineraries range from three to five nights inside Similan Islands National Park and include a combination of visits to Koh Bon and Koh Tachai. All trips conclude at current-swept Richelieu Rock, perhaps the country's most famous dive site for possible encounters with mantas, whale sharks, and schooling barracuda, plus reef residents like octopuses and ghost pipefish.

khaolakscubaadventures.com

CLOCKWISE FROM TOP RIGHT: WATERFRAME/ALAMY; COURTESY KHAO LAK SCUBA ADVENTURES; GREG LECOEUR. OPPOSITE, FROM TOP: REINHARD DIRSCHERL/ALAMY; BRANDON COLE

Listings

*Dive operations listed in bold are recognized as PADI Five Star Dive Centers or Resort Facilities

FINS & WINGS

BELIZE
Splash Dive Center*
splashbelize.com

COCOS ISLAND
Undersea Hunter Group
underseahunter.com

CUBA
Avalon Cuban Diving Centers
cubandivingcenters.com/en

EGYPT
Red Sea Aggressor
aggressor.com

GALAPAGOS
Galapagos Aggressor III
aggressor.com

INDONESIA
Worldwide Dive and Sail
worldwidediveandsail.com

MALDIVES
Four Seasons Explorer*
fourseasons.com

MEXICO
The Cortez Club*
cortezclub.com

Pro Dive Mexico*
prodivemex.com

MOZAMBIQUE
Peri-Peri Divers*
peri-peridivers.com

THAILAND
Khao Lak Scuba Adventures*
khaolakscubaadventures.com/en/

YAP
Manta Ray Bay Resort and Yap Divers*
mantaray.com

CLASSIC BAHAMAS

ABACO
Brendal's Dive Center
brendal.com

ANDROS
Small Hope Bay Lodge*
smallhope.com

BIMINI
Bimini Big Game Club Resort & Marina
biggameclubbimini.com

EXUMAS
Aqua Cat and Blackbeard's Cruises
aquacatcruises.com;
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Dive Exuma*
dive-exuma.com

GRAND BAHAMA
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Dive Komodo
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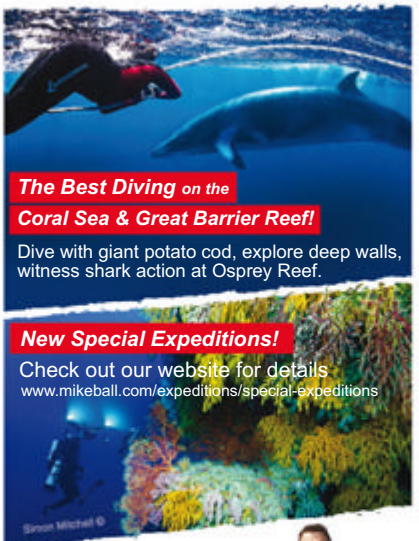
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OUT OF AIR, OUT OF LUCK?

Remaining calm and staying close prevents a panicked ascent

BY KARL SHREEVES



INCIDENT REPORT

DIVERS: Abe (DM, 450-plus dives) and Lowell (AOW, 24 dives)
SITE: Rock reef and kelp forest, Anacapa Island, California
CONDITIONS: Overcast and warm, 30-foot viz, moderate current, water temp 65ºF

On their first-ever dive together, Abe, wearing a drysuit, and Lowell, in a wetsuit, descended to sightsee along the kelp-forest edge. They reached the anchor at 65 feet; Abe led diagonally down a slope. Because Lowell lagged 15 to 20 feet behind, Abe paused at intervals to let him catch up. Each time he stopped, Abe signaled "OK?" and Lowell returned an "OK" sign. After 20 minutes, at 90 feet, Abe turned the dive. They had been drifting with the current, so they swam diagonally into it as they headed up. At 80 feet, Abe turned and saw Lowell, 20 feet behind, looking wide-eyed at his SPG. Then, Lowell bolted for the surface. Abe intercepted him and forced his alternate into Lowell's mouth. Lowell struggled, coughing, but then began breathing and calmed down. Abe dumped the air in his BC, flared to slow their ascent, and then let some air out of Lowell's BC. The last portion of their ascent was at a nearly normal rate. At the surface, Lowell orally inflated his BC. They had drifted with the current away from the boat, but the crew spotted them and picked them up.

WHAT THEY DID WRONG

Diving together for the first time, given their difference in experience level, they should have communicated gas pressures. Since Lowell was lagging, Abe should have slowed and realized Lowell was likely breathing faster. They should have stayed closer. Lowell should have asked Abe to slow down and should have turned the dive before being so low on gas. Finally, Lowell failed to apply his training when he ran out of air.

WHAT THEY DID RIGHT

Although they should have been closer, they stayed together as a buddy team. Abe handled the rapid ascent by slowing but not stopping it, provided air to Lowell, and kept Lowell calm.

FIVE TIPS FROM THIS INCIDENT

1. **STAY CLOSE** to your buddy. A rule of thumb: Be no more than two seconds away.
2. **LET THE SLOWEST BUDDY** set the pace. A diver who struggles to keep up uses air rapidly.
3. **COMMUNICATE** air remaining. Turn the dive based on quickest use.
4. **SECURE YOUR ALTERNATE** on your torso with a quick release. Don't hide it in a pocket or let it dangle where it can be difficult to locate quickly.
5. **TAKE THE PADI RESCUE DIVER COURSE** to enhance your emergency skills, including helping a panicked diver.

ILLUSTRATION: THOMAS BURNS

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